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THE SIGNAL INTELLIGENCE SERVICE
OF THE
GERMAN LUFTWAFFE

VOL. IX

HISTORY OF OPERATIONS IN THE SOUTH

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SEABOURNE REPORT
VOL. IX
HIST. OF OPNS IN THE
SOUTH LUFTWAFFE SIS

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VOL. IX

HISTORY OF OPERATIONS IN THE SOUTH

LUFTWAFFE SIS

FOREWORD

While the Luftwaffe SIS reached a higher development in the West, it was in the South that it faced the greater challenge. This was true not only because it contended there with a foe equally aggressive and resourceful, and perhaps even more so, to that of the West, but also because of the extremely varied physical environment, and geographical extent, of the Mediterranean theatre of war, wherein its operations were conducted.

In the West, the SIS enjoyed the advantages of concentration of means, excellent wire communication networks, and proximity to the enemy, whereby technical problems were reduced to a minimum. In the South, on the other hand, wide dispersion of installations, scanty wire communication, and insecure transportation and supply routes, were the rule. Again, the contrast in climatic and living conditions, especially in Africa and the Balkans, as compared to those obtaining in the West, not to speak of the ever-present threat, particularly in the Balkan regions, from partisan activities, all had a profound influence upon SIS operations. These influences, adverse in the main, are dealt with in quite detailed fashion in the biography of Major Ferdinand Feichtner, C.O., 352nd SIS Regiment, South, which is contained in Volume IV.

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Even as between the western and eastern Mediterranean areas, a marked difference in SIS operations prevailed, and it is to be observed that the authors of the within study undertook to demarcate the same. As was true of the compilation of the volumes dealing with the West, details of operations discussed in this volume were summoned from memory, there being no records available for reference.

J.G. SEABOURNE
Colonel, Air Corps,
SIS, USAAF.

*Paragraphs marked with a Red Asterisk
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C. D., USAFSS, filed in Safe #3, drawer #4*

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VOL. IX

HISTORY OF OPERATIONS IN THE SOUTH

LUFTWAFFE SIS.

By

Major Ferdinand Feichtner,
C.O., 352nd Luftwaffe SIS Regiment, South,

And

Technical Sergeant Karl Jering
Chi-Stelle, Luftwaffe SIS.

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HISTORY OF OPERATIONS IN THE SOUTH

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By

Major Ferdinand Feichtner,
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and

Technical Sergeant Karl Jering
Chi-Stelle, Luftwaffe SIS.

I. Situation in the Middle of 1940.

In the middle of 1940, the Signal Intelligence Service of the German Luftwaffe was marshalled almost entirely against Great Britain. Only the French and English traffic from Africa was observed, in the old peace-time manner, by the fixed SIS intercept station, W-13, in Oberhaching near Munich, without any especial significance accruing to this work. W-13, established in 1938, and working directly under the supervision of the Chi-Stelle, had its own evaluation section and D/F network. Its reports were forwarded by Referat C (France) of the Chi-Stelle to the Luftwaffe General Staff.

II. Situation in the Middle of 1941.

A. General.

By the middle of 1941, the war in the Mediterranean had already begun. The Luftwaffe was represented in the Mediterranean by Fliegerkorps X, which had been transferred from Norway to Sicily for the purpose. Its mission was the destruction of the RAN (particularly those units stationed on Malta), and the Royal Navy units operating in the Mediterranean. From the beginning Fliegerkorps X

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was conceived as a naval air arm. After the Balkan countries capitulated, it moved from Sicily to Greece, and later to Crete. The Signal Intelligence Service played no great part in the Balkan campaign, but it was largely due to the work it had done previously that the German staff possessed such a thorough knowledge of the Balkan air forces and their deployment. This made it possible to annihilate these forces in one single, momentous attack, before they had a chance to prove their mettle.

The SIS in the south was created by:

1. Transfer of the 9th Company of Luftwaffe Signal Regt. 40 from Norway to Sicily, and later to Athens, in the wake of the movements of Fliegerkorps X, which it served as SIS company.
2. Dispatch of an SIS platoon from W-13 in Oberhaching to Palermo.
3. Movement of the fixed SIS station, W-14, in Premstaetten near Graz, to Vougliaeni near Athens.
4. Return of some of the personnel of Referat B from Asnieres-sur-Oise near Paris, to the Marstall in Potsdam, to form a new Referat (Ref.C) for the Mediterranean area and the Near East.

B. Organization.

1. 9th Company, IIR 40.

This company, shortly before being transferred to the southern front, was activated in Norway, with a large percentage of new recruits. Therefore it was not very experienced in signal intelligence work. After the company settled down in Sicily, it was assigned the coverage of RAF air-to-ground traffic in the Mediterranean, as well as in the Balkans. Up to the time of the revision of the first British 4-figure code book, it monitored point-to-point

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traffic as well, which after decipherment yielded valuable intelligence on which to base German operations. But there was no particular attempt to carry out a very highly developed log analysis, or to reconstruct the enemy ground organization from the traffic intercepted. In order to assist the combat units on their missions, airborne R/T intercept operators were sent along, after the fashion practised in Norway. Good results were also obtained through the breaking of the Syko code.

At this time the 9th Company of INR 40 did not experience the same difficulty in dealing with staffs as did the SIS organizations in the West. This was because the A-2 of Fliegerkorps X depended very much on this company for combat intelligence, and since the company commander was rather inadequate, the A-2 was in fact the commander. This arrangement guaranteed that signal intelligence operations would be co-ordinated exactly with the requirements of the tactical combat units. On the other hand, the Signal Intelligence Service lost a large measure of independence.

The company had 35 HF sets in operation, of which 30 were for point-to-point and air-to-ground W/T traffic and 5 for R/T. Two HF D/F's in Portopalo and Primosole were set up and directed by the company.

2. SIS Platoon, WO-313.

About this same time, the beginning of 1941, the fixed intercept station in Munich/Oberhaching sent an intercept platoon of about 25 men to Palermo. From here it covered the ATC traffic in North Africa, and the Free French traffic in the same area. The significance of this platoon's work was small.

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3. Fixed SIS Station, W-14.

Toward the end of May 1941, after the Balkan countries had been defeated, W-14, which had been set up in Premstaetten in 1938, moved to an area near Athens. The personnel comprised civil service employees, together with newly recruited soldiers.

W-14 took over the point-to-point networks, which up to that time had been covered by the 9th Company of LMR 40; but owing to the shortage of intercept personnel only six receivers were operated at first. In June 1941, WO-313 turned over the coverage of the AIC networks to this unit. In addition, Turkey was covered with four receivers, two of which were for R/T. The station established a new D/F base line between Crete and Rhodes.

The rapid growth of the RAF in the eastern Mediterranean soon made it necessary for W-14 to seek sizeable reinforcements. Since it appeared that the next large-scale objectives in the German plan of conquest lay in this sector, a particularly able signal intelligence officer was transferred from the West, and put in charge of the setting up and directing of this intercept station.

In addition, the Chi-Stelle sent a cryptanalysis platoon of about 30 men to Athens, in order to obtain more intelligence on the RAF in the Mediterranean by reconstructing the newly-changed code book used in the 4-figure messages. But the conditions for reception did not measure up in any way to the requirements of the task. Therefore the building of a radio installation of considerable size was undertaken in Loutsia. This resulted in an increase in the amount of messages intercepted that the first successes were attained for breaking the 4-figure code.

Since radio transmissions from Turkey fell into the area of "skip", an intercept team, with a small tactical evaluation section, established itself on the island of Kavalla in the northern Aegean.

4. The SIS Platoon, "Africa".

An SIS platoon was taken from the 9th Company to work with the newly-formed African Air Command. Its mission was the interception of air-support and R/T traffic. The platoon was very successful in cooperating with both the air and ground forces, but owing to the unsatisfactory signal communication facilities between Europe and Africa, the new and important methods it evolved were never brought to the timely attention of the corresponding evaluation sections of other SIS units.

5. Referat C of the Chi-Stelle

Following the fall of France, Referat C of the Chi-Stelle, which had monitored French traffic, was gradually dissolved. Referat B, which worked on RAF traffic, moved to the Paris area, in October 1940. Therefore, a new Referat C was set up in the Marstall, made up of that Referat B personnel, which had been concerned only with Mediterranean and Near East traffic. This was done because signal communication with Greece and Sicily was much better from Berlin than from Paris. Naturally enough, Referat B did not release its best men for this assignment; moreover the newcomers to the new Referat received no schooling or assistance in their work. For these reasons the performance of the Referat remained notably mediocre.

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C. Strength.

9th Co., LNR 40 in Kifissia, Greece, including SIS platoon in Africa	200 men
W-14 in Vougliaeni near Athens ,	60 men
WO-313 in Taormina, Sicily	27 men
Referat C in Potsdam	<u>13</u> men
Total:	300 men

D. Evaluation.

Each of the SIS units in the South did their own evaluation of the intercepted traffic independently. The final evaluation section of 9th Co., LNR 40 was located with the A-2 of Fliegerkorps X.

At first W-14 confined itself chiefly to an evaluation of the message contents, and the peculiarities of the different traffic, as most other units were doing at that time. After the arrival of the cryptanalysis platoon, the interception of traffic was guided by two considerations: first, to increase the total quantity of messages available through the interception of networks not previously covered; secondly, to intercept systematically traffic of tactical importance. Most messages were deciphered, and the appropriate information was extracted from the texts. In those days, evaluation, in essence, meant deciphering and translating.

Every day a collection of the deciphered messages was sent to Referat C, and all other signal intelligence units of the South. All stations published daily technical signal reports on the traffic intercepted; daily tactical intelligence reports on the results of evaluation, and monthly reports.

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E. Signal Communication.

In contrast to the West, the South never had excellent wire communication. It is true there was a direct line between Sicily and Berlin, as well as between Athens and Berlin; but even in the best of times it was almost impossible to get through from Athens to Sicily. The non-existence of communication from east to west in this area was one of the principal reasons for the Referat's moving back to Berlin from Paris. This Referat should have been even more important, as it was the only SIS unit that received up-to-date information from both the eastern and western Mediterranean. Daily situation reports were sent to the Referat by those SIS stations having the best teletype lines. The units in Sicily had their own internal wire net. When this facility was in any way inadequate, flash messages and orders were sent by W/T. Reports were generally sent by courier.

F. Liaison With Other Units and Headquarters.

From the beginning of the Norwegian campaign, the liaison between A-2 of Fliegerkorps X and the 9th Company serving it, was particularly close. This company's reports were not prepared by its evaluation section, but by the A-2. However, a general evolution in this direction would not have been advantageous for the SIS as a whole, because in this way it would have lost its independence. The 9th Company was dependent on the A-2 to such an extent that he, and not the company commander, decided the unit's coverage. As W-14 and WO-313 also used to turn in their material to the A-2, and since the Referat was not alive to its responsibilities, the A-2 section of the Fliegerkorps alone could give a current summary of the air situation in the Mediterranean theatre, as derived from signal intelligence.

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III. Situation in the Middle of 1942.

A. General.

The strong reinforcement of the RAF, and the growth of opposition generally in the Mediterranean, added to the ineffectual contribution by the Italians, forced the German High Command to strengthen the Luftwaffe in this theatre considerably. For this reason, Luftflotte 2 was withdrawn from the Eastern Front in November 1941, and sent to Sicily. In the beginning of 1942 it arrived at Taormina. The following units were assigned to it:

Fliegerkorps II in Messina;
Fliegerkorps X in Heraklion;
African Air Command.

Each Fliegerkorps had an SIS company; the African Air Command had an SIS platoon. An evaluation company, W-Leit 2, was attached to the Luftflotte, and became the center of SIS activities. By virtue of the expansion and increase in the duties of the SIS company in Athens, to which new personnel was constantly being added, the organization was finally raised to the status of a battalion. This resulted in a distinct separation of SIS organizations in the South. W-Leit 2 and the units connected with it were made responsible for the area west of a line drawn through Cape Passero, Malta, and Tripoli. W-Leit 2, Southeast, was responsible for the area east of this line. The logical unification of the two battalions into one SIS regiment was considered time and again, but failed of realization because of lack of drive on the part of the officers responsible.

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B. Organization. (See Figure No. 1).

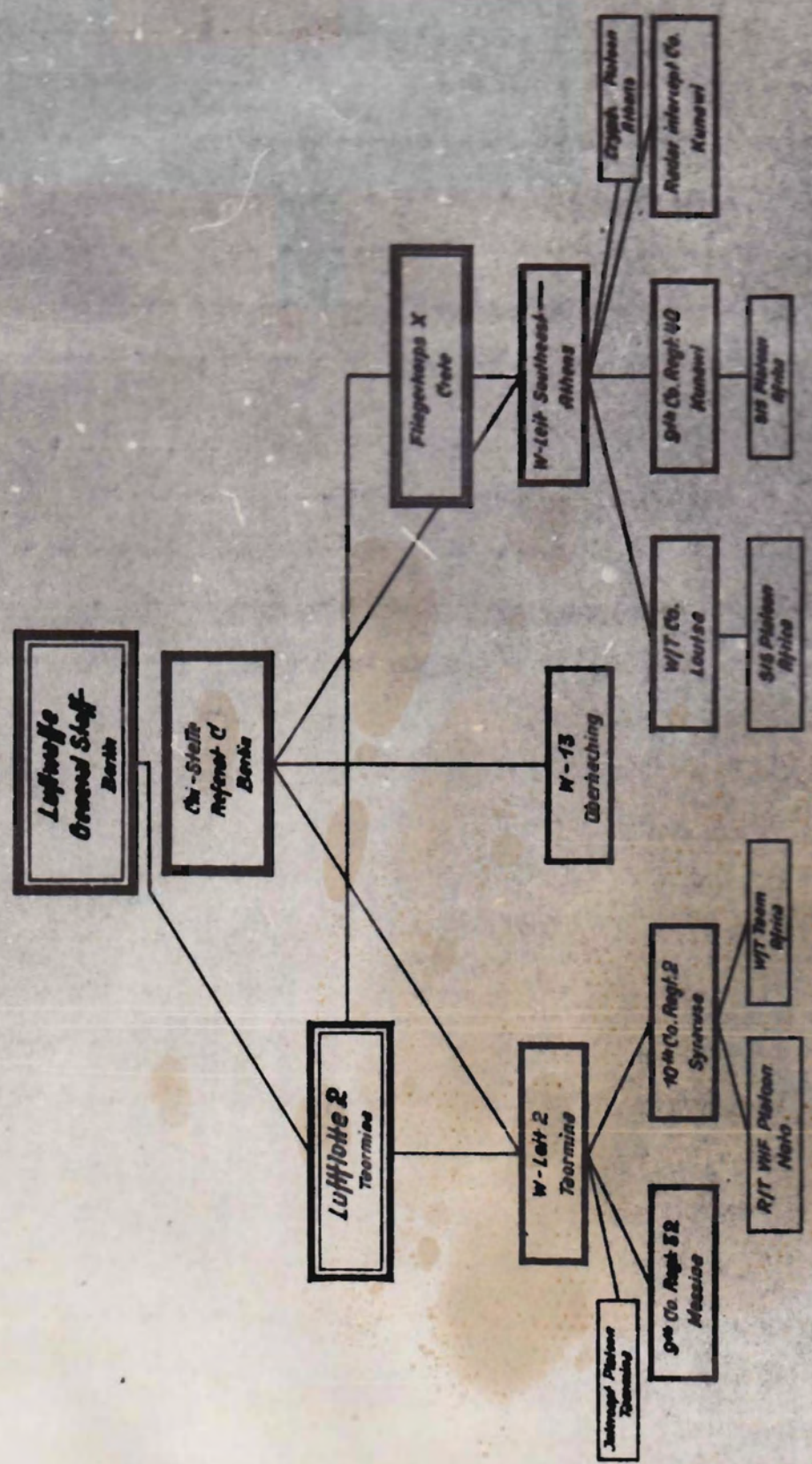
The great importance which the Mediterranean Theater had assumed by the middle of 1942 can be estimated from the fact that the amount of personnel engaged in signal intelligence work had increased fivefold over the previous year. An important step in the development of the Signal Intelligence Service in the western Mediterranean was the transfer of W-Leit 2 from the center of the Eastern Front to Taormina.

1. W-Leit 2.

W-Leit 2, with its out-stations, held a leading position in the coverage of the RAF during the great air battles over Britain in the second half of 1940. It was then stationed in Brussels. Among its personnel there was a nucleus of expert intercept operators and evaluators. When it moved to the Mediterranean, following a short tour of duty in Smolensk with Luftflotte 2, it took up once more its old job of combating the RAF. To be sure, the previous task of covering the Russians could truly be called primitive compared to what was now required, and some time was needed for orientation. In the capacity of evaluation unit for Luftflotte 2, it controlled all the other signal intelligence companies and platoons in the western Mediterranean. Nevertheless, leadership in both the Leitstelle and the battalion left very much to be desired. No single SIS officer in a responsible position possessed the tactical perception indispensable to successful signal intelligence work in this difficult theatre. So the battalion concentrated on air-to-ground traffic similar to that intercepted on the Channel coast. However, the unit lacked a well-rounded signal intelligence program.

SIS Organization in the Mediterranean
Middle of 1942

Figure No 1



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The intercept platoon of W-Leit 2 covered the following types of traffic:

- a) Reconnaissance and Safety Service frequencies of Malta and Egypt;
- b) Torpedo-bombers; ferry and transport flights along the Gibraltar-Malta-Egypt route;
- c) Air-Sea rescue, navigational aids (radio beacons, broadcast transmitters), and news reports;
- d) HF R/T of the Malta fighter units and of aircraft carriers delivering fighters for the Maltese garrison, before the British fighter units went over to VHF (up to March, 1942).

HF D/F's in Marsala, Primosole and Portopalo in Sicily and Gallipoli, southeast of Taranto, were at this unit's disposal (See Figure No. 2).

2. 10th Company, LNR 2 in Syracuse.

The 10th Company, LNR 2 was also transferred from Smolensk to Sicily in the beginning of 1942. It consisted of one strong W/T platoon in Syracuse, and a VHF platoon on a mountain southeast of Noto. The W/T platoon covered the Free French traffic from North Africa, the Malta-based reconnaissance traffic, and the other W/T frequencies used by the RAF on Malta.

The out-station at Noto was activated, in March, 1942, to operate against the fighters on Malta, which in the meantime had gone over to VHF. It included some first class R/T operators, who had come from the former VHF intercept stations of W-Leit 2 on the Channel Coast.

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There was no VHF station in the whole Mediterranean whose site could even approach this one in suitability. This platoon might be considered the finishing school for German VHF R/T operators. The restricted size of Malta enabled enemy operations to be covered in great detail. Moreover, all the VHF transmitters on Malta could be heard most distinctly at Noto despite the efforts the British made to screen the transmissions. And also, the most attractive feature of VHF intercept operation here was the large number of sorties flown by the opposing air forces, who were well matched against each other. These air battles could be followed from take-off to landing, and maintained their pace for almost a whole year. On two occasions, during April-May, and October 1942, the island was the focal point of the military situation. The intercept station, which worked in immediate connection with the German fighter and bomber units on Comiso and other Sicilian airfields, achieved most important successes during the two air offensives. Both times the island had been beaten down to such an extent that German bombers were able to fly low on their bomb runs over Malta. According to the captured diary of an RAF pilot, on the 7th and 8th of May, 1942, Malta had one serviceable Spitfire, and two rounds of ammunition per antiaircraft gun. In both instances the Italians failed to carry through the promised landing operation. In May British submarines brought reinforcements, and in October an American aircraft carrier provided relief to the beleaguered forces. The Luftwaffe in the Mediterranean never recovered after the losses incurred in the two battles for this important stronghold, so decisive to the eventual outcome of the war.

Signal intelligence kept accurate account of the enemy situation despite the adept British "spoof" tactics, and gave clear approx-

ations to the High Command, in addition to the indispensable flash reports. Unfortunately, the higher echelons had been affected so adversely by the corrupting influence of the Italian Allies, that the only possible chance to turn the tide in the Mediterranean in Germany's favor was lost.

The out-station in Noto had a nearby VHF D/F in Agrigento, and another in its own immediate vicinity. Collaboration with the Italian VHF station in Ragusa was very one-sided, and limited virtually to a good-natured wining and dining of the Italian R/T operators on temporary duty at German stations, who were inherently capable operators, but had no great interest in the work.

3. 9th Company, LNR 32 in Messina.

This was the signal intelligence company of Fliegerkorps II, and shared its assignment with the 10th Company, LNR 2. The leadership of this company was especially poor.

4. The SIS Platoon "Africa" in Marble Arch.

This platoon, which was always located in the immediate vicinity of the African Air Command, had a very elastic cover program. For example, during the day, fighter and medium bomber units were covered; at night 205 Bomber Group. The platoon was especially successful in monitoring air support traffic. Intelligence obtained from these networks was turned over immediately to the Air Commander, and very often put to tactical use.

Later, small teams were detached to German fighter units in Africa. Their mission was to inform the command posts of enemy fighter activity. They may be considered the forerunners of the Fighter Warning Service,

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subsequently developed in the South. The platoon also employed a number of airborne R/T operators, who accompanied reconnaissance and bomber crews on difficult missions.

The primary function of this SIS platoon was to serve the tactical units in Africa. It was fully mobile, and so equipped with respect to personnel and radio sets that it could work completely independently. Work generally done by overhead personnel was performed by the radio operators themselves. The evaluation personnel was also very small in number. The radio operator on the receiver, himself passed on messages which he deemed important to the tactical units concerned. At a time when the Luftwaffe SIS in the West and in the South were enjoying peace-time standards of living, and viewed their task most complacently, these combat soldiers were hard at work, unnoticed by the evaluation sections everywhere. However, they had already developed in this early stage of the war all those methods which were later generally adopted in Italy and France, after the Allied invasion of those countries.

5. W-Leit, Southeast.

The most astounding growth of any SIS unit, however, was that of W-14 in Voglianesi, expanded in the spring to Leitstelle, Southeast. This growth was substantially the personal accomplishment of one officer, who had come up from the ranks of the old Reichswehr, and not only possessed a complete knowledge of all details of the operational side of the service, but was above reproach in his personal life, and was an exemplary commander of troops. From this example, there is to be learned how much can be accomplished by an energetic and capable commanding officer, despite second-rate personnel, and a confining lack of understanding on the part of higher headquarters, by

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virtue of his personal ability, even in a highly technical service whose work was of a most difficult nature.

To begin with, W-14 was brought up to strength by drawing personnel from replacement pools. Then followed the incorporation of WO-313, which was not engaged in any specific or vital work. Accordingly, in the course of the year under discussion, W-14 increased its personnel nearly tenfold. In December 1941, the evaluation section moved from Vougliaeni to Athens, and in April 1942 the large-scale installations in Loutsa were finally ready for operations, after indescribable difficulties with Luftwaffe construction engineers and Greek labor. After inspection by General Martini, the over-expanded post was separated into two companies. The evaluation unit in Athens was made Leitstelle for the whole eastern Mediterranean and the Near East. It concentrated mainly on the clarification of Allied point-to-point traffic. The W/T intercept station in Loutsa covered:

- a) Point-to-point networks of AHQ, Middle East Command, Desert Air Force, AHQ Iraq-Iran, Hq. Aden, Hq. Levant, as well as 201 NC Group and 205 Group;
- b) Traffic of Allied transport aircraft in Africa.

The D/F stations were in Loutsa, Constanta and Rhodes; stations in Kalanaki, Palaeochora and Derna were subsequently added (see Figure No. 2).

6. 9th Company, LNR 40 in Kunawi (Crete).

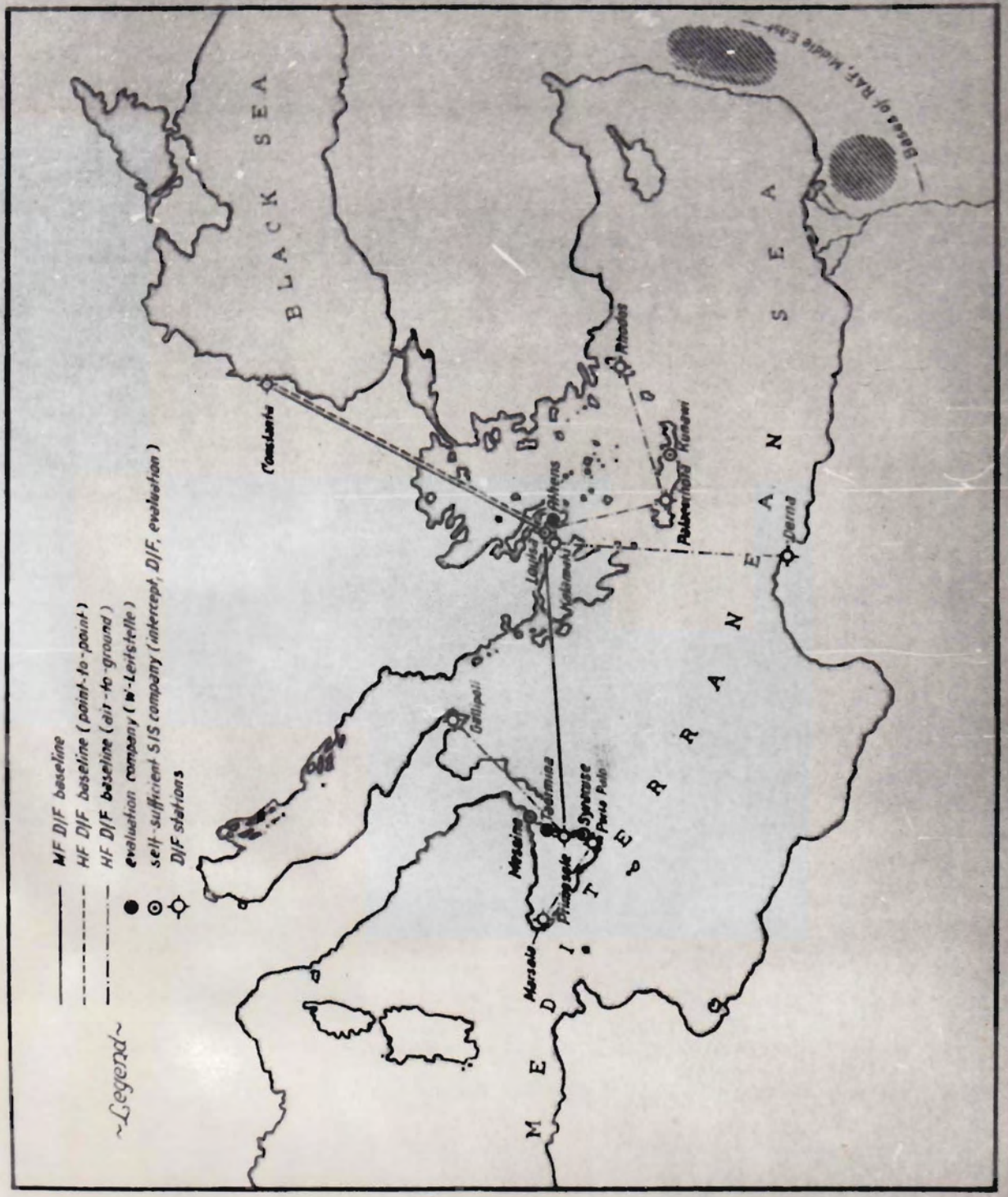
The work of this company during the year previous was confined to the requirements of Fliegerkorps X. Since in the meantime British traffic in the Mediterranean had increased to such an extent that one intercept company could no longer handle it, the 9th Company, LNR 40 was placed oper-

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DIF Networks
in Mediterranean

— Middle of 1942 —

Figure No 2



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ationally under the command of W-Leit, Southeast, and received its coverage assignments from this station. The company further specialized in R/T intercept. It set up HF and VHF out-stations on Crete and Rhodes, in the Bay of Bomba and in Derna. The out-stations in western Crete covered fighter R/T in Cyrenaica, Egypt, Palestine and of the aircraft carrier units in the waters surrounding. The out-station on Rhodes covered the fighters on Cyprus and in the Levant. Those in the Bay of Bomba and Derna mostly served a Staffel of NJG 2, which was operating against 205 Bomber Group (see page No 51a).
Figure No. 11

7. The Radar Intercept Company, Mediterranean.

Similar to those on the English Channel coast, stations were set up on Crete, at this time, for the interception and jamming of enemy airborne and ground radar. A JU 52 was especially fitted out to jam enemy radar in the Malta area. However, as these experiments were still in the theoretical stage, and received no energetic or purposeful support from any quarter, the results were very modest at the beginning.

8. Conclusions.

Taken as a whole, the characteristics of transition can be recognized in the organization of the SIS in the Mediterranean during this period. All companies, except the intercept company in Loutsia, overlapped in the traffic they covered, in order to give flash reports to the operational units they served. Despite the existence of two Leitstellen, there still was no unified planning of the signal intelligence operation. Nor could Referat C in the Marstall exercise any influence on this state of affairs. The Referat had increased its personnel to a number proportionate to its importance, but the work there was still carried on in the old peace-time tradition.

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C. Strength.

W-Leit 2 including intercept platoon	250 men
10th Co., LNR 2	200 men
9th Co., LNR 32	100 men
W-Leit, Southeast, including cryptanalysis platoon	350 men
W/T company in Loutsa	200 men
9th Co., LNR 40	200 men
SIS Platoon "Africa"	50 men
Radar intercept company	80 men
Referat C	<u>30 men</u>
Total:	1460 men

D. Evaluation.

The Leitstellen were provided to perform the evaluation function. But since the SIS companies were given considerable assistance by the headquarters for which they worked, they prepared independent monthly reports for these headquarters, in addition to supplying daily reports and flash messages. Still, the two Leitstellen succeeded in retaining the final analysis function for themselves, and made the companies confine themselves more and more to instant tactical evaluation.

The development of evaluation itself was marked by:

- a) The preference among intercept units for air-to-ground traffic;
- b) The successes of cryptanalysis on point-to-point traffic. In this respect evaluation in the South surpassed that in the West; for whereas the latter had to content itself with traffic and log analysis, the former, by breaking messages, knew the unit designations, equipment and strength of personnel, etc., and could incorporate this knowledge into the rest of their

intelligence work. The combination of air-to-ground traffic intercepts and deciphered W/T messages, provided an abundance of significant identifications.

The division of work between the two Leitstellen in the South was fixed by the differences in the traffic each covered. The evaluation in W-Leit, Southeast, was organized on a basis of enemy units, each section handling a tactical unit, for example, 201 NC Group, 205 Group, 9th USAAF and Desert Air Force. By way of contrast, W-Leit 2 divided its evaluation according to the source of the information, for example, fighter R/T, reconnaissance and bomber W/T and air support traffic. In addition to these sections, there were evaluation sections for D/F and captured documents. This division as to sections developed a high degree of specialization; but in the case of W-Leit 2, whose officers were rather inefficient, this situation led to an undesirable aloofness, which had an adverse effect not only on cooperation within the W-Leit, but also on the out-stations working under its direction.

Analysis of the 4-figure messages that were intercepted from the point-to-point networks, supplied rich intelligence on the strength, order of battle, equipment and operations of the enemy air units. Evaluation of this traffic was in large measure responsible for the rapid increase in the importance of W-Leit, Southeast. The combining of the intelligence gained through this source with that extracted from the air-to-ground traffic, provided such a thorough picture of the air situation which none of the units operating in the West could possibly furnish. As the messages were broken by the cryptanalysts, the plain-text was handed over to the contents evaluators. Information of strategic importance was communicated to the headquarters concerned.

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Beginning with June, 1941, the transport traffic was also worked on by the contents evaluation section. These transport messages acquired additional importance the following year. A cryptanalytic team was directly attached to the evaluation section.

Besides the Leitstellen, one other evaluation section, that of the 9th Company, LNR 40, deserves mention, because of the independence allowed to it. Signal communication between the mainland and Crete was so unreliable that this SIS company had to be accorded certain rights of individual initiative in its evaluation. This evaluation section, which worked in the A-2 office of the Fliegerkorps, was transferred back to the company in December, 1941, and was once more made to conform to the requirements of the Signal Intelligence Service.

E. Signal Communication.

In order to derive operational benefit from the flash reports, both the operational units and the Signal Intelligence Service demanded that the latter have its own wire nets. The passing on of the daily SIS reports, summaries, memoranda on special intelligence matters, the exchange of cryptanalytic procedures, etc., all necessitated a reliable and secure wire network peculiar to the service. These requirements were agreed to by higher headquarters, and in 1942 the communication facilities consisted of:

a) Wire communication.

Teletype lines between Taormina and Berlin, Athens and Berlin, as well as between the two SIS battalions.

Telephone lines from each battalion to Referat C in Berlin, to Luftflotte 2 and subordinate units; between the individual SIS units.

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b) Radio communication.

The Chi-Stelle network which included both Leitstellen.

An SIS network including all SIS units in the Mediterranean.

Battalion networks including companies and out-stations.

The wire net in Sicily was dependable, and was used almost exclusively for intelligence. Only in the Balkans, with its permanent unrest, did radio communication prove indispensable right from the start; therefore great stress was laid on radio procedure and discipline.

Between the Chi-Stelle and the battalions almost all communication was by land-line, because the Luftwaffe high-grade cipher device provided for radio communication, was ill adapted for the cryptographing of the usual long reports (such as the daily tactical report), at least without a large number of additional message center personnel.

F. Liaison With Other Units and Headquarters.

The intelligence, to the smallest details, which the SIS was able to obtain concerning the enemy air forces, soon made the SIS indispensable to the other units and headquarters in the South, where in extended areas relatively small forces opposed each other. The reliability of SIS intelligence engendered great trust in it. Therefore, the demand in the combat units for SIS liaison officers continually increased. SIS liaison officers were assigned to the Luftflotte, the Fliegerkorps and to the African Air Command. They made their reports to the A-2 or A-3, and especially important messages were taken right to the commanding generals.

Commanders of the combat units were briefed on the offensive and defensive possibilities of signal intelligence. Those who planned operations

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depended so much on the performance of the SIS that certain forces were held in reserve, especially in the Italian sector, which were only committed on the basis of signal intelligence reports. In addition to the fighters, whose control would have been impossible without the picture of the air situation as furnished by the SIS, the bomber groups were also grateful for the SIS fighter warning service, at that time based mostly on R/T interception, which enabled them to keep their losses tolerably low.

The liaison officer was the SIS representative at headquarters. He received the flash reports sent in by the intercept companies and evaluation sections, and brought them to the attention of the proper authorities. Besides, he explained the air situation as derived from signal intelligence at the daily conference in the A-2 office, which information he had received by telephone or teletype. The SIS liaison officers were included in the distribution of all tactical signal intelligence reports. Technical signal data (diagrams of networks, call-signs, etc.) were only passed on to them in exceptional cases. By virtue of their position, the SIS liaison officers exercised a considerable influence on the tactical evaluation. At the same time, they were responsible that their SIS units received captured documents, PWI reports, photo intelligence, and other A-2 material that was of interest to the evaluation section. They also were charged with passing on to SIS the particular requests of the combat units.

IV. Situation in the Middle of 1943.

a. General.

The past year had brought a rapid decline in German military fortunes in the Mediterranean. Rommel's victories, won during 1941-1942, had brought the German forces to the gates of Egypt. The turning points were Alexander's

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breakthrough at El Alamein, and the Allied landings in French North Africa.

1. Eastern Mediterranean.

One of the greatest successes of the SIS in the Mediterranean was the thorough monitoring of the Allied ferry service over the desert stretch from Takoradi and Accra to the Egyptian front via Khartoum, as well as from the UK via Gibraltar to Africa. For months on end the German High Command was furnished precise information as to the number and types of the ferried aircraft, length of the flights, intermediate landing fields, and the capabilities of the individual supply routes. The intercepted material sufficed to calculate the Allied air potential for months in advance. Whether the German operational commands lacked the tactical ability to appreciate the importance of this intelligence, or whether their default in moral courage in the face of dependence on the plans of a single individual was so abject that they simply disregarded these possibilities, at any rate the German SIS is to be absolved of any responsibility for the collapse of the front at El Alamein and the retreat which followed. Opposition was shown by the Luftwaffe A-2 toward the reports the Chi-Stelle furnished, whenever these reports exceeded the limits of customary SIS observations and facts, and included conclusions of a tactical nature. The A-2 reserved to himself the exclusive right to draw conclusions from a given situation. The Referat chiefs in the West, and the South as well, were accustomed to face a controversy with the General Staff every time they turned in a monthly report, because A-2 would always find the statements therein contained so overwhelming, that he simply did not dare to set these startling facts before the A.3. Thus the most complete signal intelligence situation summary was of no avail if the General Staff failed to adjust its plans to the realities of the situation.

2. The Allied Landing in North Africa.

Although the Luftwaffe SIS can not be criticized for the German collapse in the eastern Mediterranean, as it unquestionably had fulfilled its function there to the fullest measure, still it failed to predict the most decisive event of this period in the western Mediterranean, namely, the Allied landings in North Africa. Although responsibility for strategic planning in the entire southern area lay with Luftflotte 2 in Sicily, its SIS battalion performed only part of the mission assigned to it. While, in the eastern Mediterranean, a start had been made in the right direction, namely, that only a thorough monitoring of the enemy's point-to-point traffic could guarantee a reliable appreciation of his organization, W-Leit 2, on the other hand, contented itself with the more spectacular but easier monitoring of air-to-ground traffic, without assigning even one of their companies the task of monitoring the vast extent of the French North African coast. This task was carried out, from beginning to end, by the fixed SIS station in Oberhaching, Bavaria, which was a comfortable little colony of civil service employees and soldiers, who considered it their principal duty to preserve as long as possible the safety of their position in the war effort, and the perpetuation of their peace-time mode of life. Again, the position of Referat C was not sufficiently strong when opposed by the powerful battalion, under the command of C-in-C South, to be able to interfere in details of the battalion's operations. Moreover, co-operation was apparently lacking in high German quarters, since the threat of a landing in French North Africa was known by the Foreign Office, but the Chi-Stellen of the armed forces in Berlin were not informed of the situation.

Two conditions greatly favored this enemy undertaking:

- a) The landing operations in North Africa were the first of their kind;

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therefore the Wehrmacht possessed no experience in methods by which they might have been pre-determined.

- b) As became known later, the enemy point-to-point networks offered the only reliable means of predicting a landing. In the case of French North Africa, these were either covered insufficiently by the SIS, or neglected entirely.

From the point of view of deception, the Allied landings in North Africa were the most successful of the entire war. In the first place, masterful execution was given the ingenious plan of making the landing fleet appear to be no more than a large group of the customary type of convoy. Naturally the activity of Murphy and his consuls in North Africa escaped German political notice no more than did the suddenly increased reconnaissance of the West African coast by Gibraltar-based aircraft. Murphy's personality and activity were vehemently discussed in the German press at the time, but no military conclusions were drawn. Thus the only available clue which remained, the increase in aerial reconnaissance from Gibraltar, Freetown and Bathurst, was interpreted as signifying the approach of several large convoys for the Cyrenaican front. Reconnaissance over the African mainland was presumably carried out by carrier-based aircraft. However, no adequate data on their R/T traffic were procured by the Luftwaffe SIS, since it had no adequate bases for the interception of this type of traffic. (The installation of a VHF detachment in the Balearics had been repeatedly requested by R/T specialists, but had never materialized because of the indecision and reluctance to act on the part of the responsible officers).

During the year being reported upon, a significant expansion took

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place in the SIS of the South. Its defensive functions assumed increasing importance. This sort of development always take place when:

- a) Commands must rely on passive defense measures against enemy raids, because they themselves lack the power of the offensive;
- b) SIS must take up the slack, owing to the deficiency of intelligence from other sources.

At this time developments in the Mediterranean were characterized by:

- a) The unsuccessful attempt to create a unified SIS organization in the South;
- b) Accelerated construction of intercept and D/F stations for VHF R/T and radar intercept;
- c) Increase of the SIS platoon in Africa to the size of a company;
- d) The beginning of flight path tracking in the South.

B. Organization.

The steady accretions in personnel, and the fact that since El Alamein and the landing in North Africa, the German strategy had become purely defensive, dictated a more centralized SIS organization for the South, similar to that in the West, where an SIS regiment had been organized in the middle of 1942. In the course of the past year, the intercept companies had lost the last vestige of independence from their Leitstellen, and thus became more and more the mere intercept instrument of the central evaluation company, located with the battalion headquarters. Then a consolidation of the different

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species of evaluation performed by W-Leit 2 and W-Leit, Southeast, on the part of a higher echelon of intelligence evaluation, became more urgent. To an ever increasing extent, the Chi-Stelle discharged this duty in the interest of the Luftwaffe General Staff; but signal communication was too limited for it to furnish this service to the Commander-in-Chief South. The obvious remedy would have been to unite the two battalions of the South into one SIS regiment, at the headquarters of which the process of final evaluation would have been performed. Instead, an SIS liaison unit was assigned to Luftflotte 2 at the end of 1942.

1. The SIS Liaison Unit.

This was an entirely ill-advised unit. The lack of a qualified officer, who might have been able to command this team, as well as the fundamentally unsound SIS policy with respect to the assignment of personnel, were responsible. The unit's mission was intended to be the compilation of the results of SIS evaluation in the Mediterranean, and to establish liaison, on the one hand with the Chi-Stelle in Berlin, and, on the other, with the Luftwaffe commands in Italy and Greece. This was an illusion from its inception, if for no other reason than that the liaison unit did not boast a single competent officer. Neglected by the Chi-Stelle, ignored by the Leitstellen, it continued a pitiful existence, until higher authority also realized its superfluity and dissolved it six months after it was organized.

2. Referat C.

In contrast, Referat C began more and more to measure up to its duties, especially since the summer of 1942, when the chief of Referat B was

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transferred back to the Marstall, took over Referat C, and lent to it not only proven zeal for the work, but his experiences in the West as well. Thus what was, in the main, young and inexperienced personnel was instructed in the work and its purposes. New methods were developed to utilize the results of the point-to-point monitoring by W-Leit, Southeast, and the air-to-ground monitoring by W-Leit 2, for the benefit of final evaluation. Also, there was evolved a closer collaboration with the General Staff, which became more and more interested in the work of this Referat. The Referat, by the same token, attained an increasing influence over the two Leitstellen, even though they were still accorded considerable autonomy by reason of the great distances involved. Nevertheless, the Referat retained control of the assignment of missions to the SIS battalions, and when difficulties presented themselves in any department, a specialist consultant was sent to the Leitstelle concerned to adjust matters.

The best performance of the Referat was in its log analysis. In addition, it had a competent sub-section, which worked on reports on the press, of A-2, and prisoner of war interrogations. However, the analysis of navigational aids remained undeveloped, because no qualified technician was available.

3. W-Leit 2.

W-Leit 2 suffered under officers in whom incompetence and irresponsibility joined hands. The good life in Taormina, the proximity of many headquarters, the traditional lack of skill of the Chi-Stelle, evinced in the appointment of either old, technically and tactically outmoded reserve officers,

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or assignment of administrative officers, ignorant of the Signal Intelligence Service, and uninterested in its requirements, as battalion commanders; all these factors contributed greatly toward the failure of W-Leit 2 to realize its full capabilities. Whatever action was taken by W-Leit 2, was almost never the result of provident planning, but was dictated rather by the enemy, or acquiescence with the wishes of higher headquarters. Under these circumstances, and during the period in question, many VHF and radar intercept stations were established. These out-stations deserve all the credit for the successes of the SIS in the western Mediterranean. They thoroughly covered the supply route between Sicily and Africa, and attempted to protect the increasingly imperilled line of communication with the German African Army huddled in Tunisia.

The HF D/F base line for the western Mediterranean area included at that time D/F stations in Gallipoli, Montpellier, Marsala, Elmas and Tunisia (See Figure No. 3).

Radar intercept stations were erected in Gallipoli, Santa Maria di Leuca, Melito, Ischia, Ustica, Cagliari, Marsala, Trapani, Augusta, Portopalo, Noto, Gela, Pantelleria, Cape Bon, Porto Bardia, and El Daba. Some of the radar intercept stations were equipped with jamming transmitters, and by jamming the ASV's and naval radars, they endeavored to protect the supply route necessary to maintain the Panzer armies. (See Figure No. 4).

For VHF R/T, in addition to the station at Noto, intercept and D/F stations were set up on Mt. Erice near Trapani, in El Acouina near Tunisia and in Teulada on the southern tip of Sardinia (See Figure No. 4).

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HF D/F Network of W-Leit 2

— Beginning of 1943 —

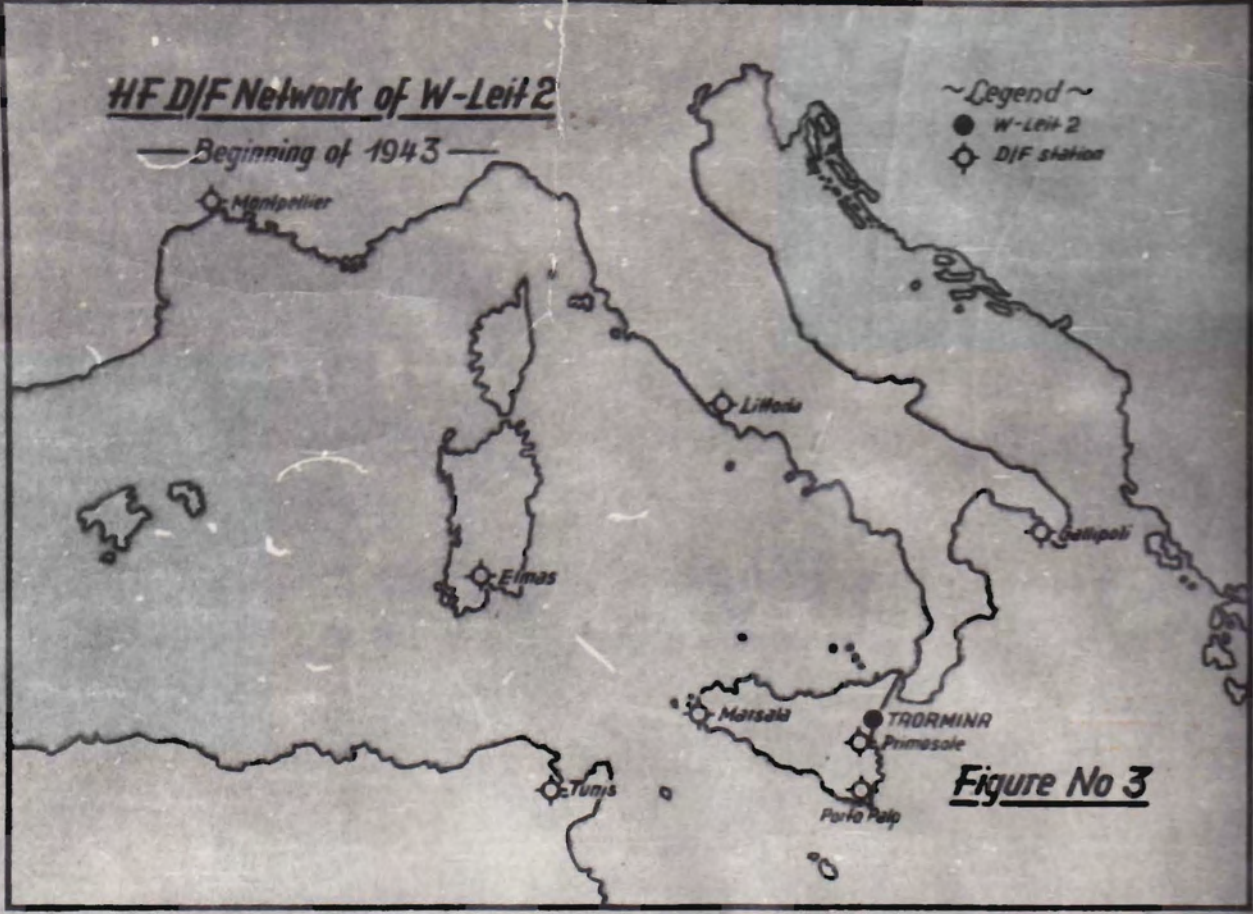


Figure No 3

VHF and Radar Intercept Stations

of W-Leit 2

— Beginning of 1943 —

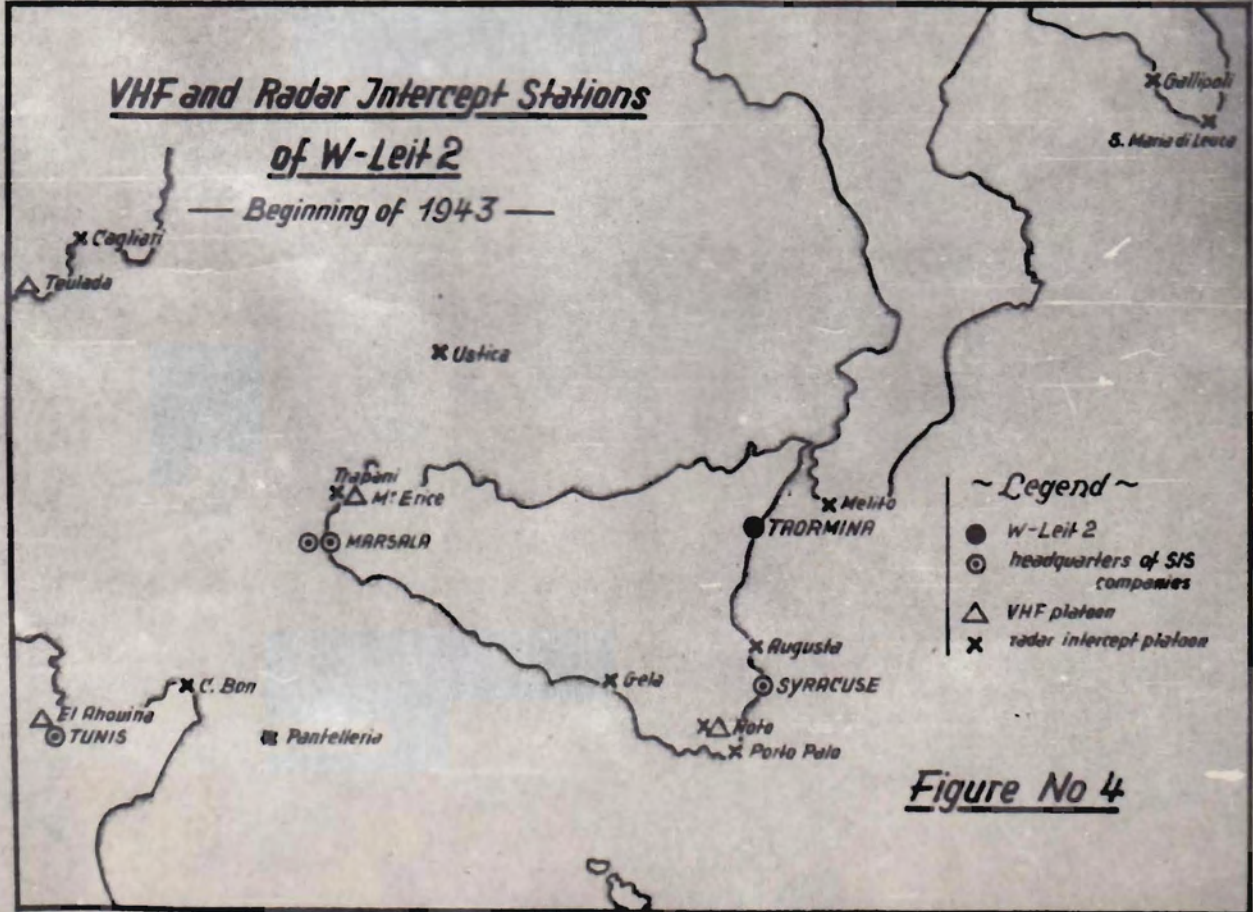


Figure No 4

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The SIS Company, Africa, deserves special mention; its R/T operators, equipped with Victor (VHF) Army receivers, flew with the Geschwader commanders, and during serial battles kept them informed of enemy intentions on the basis of the R/T traffic intercepted. With the capitulation of the German forces in Tunisia, half of the SIS company was taken prisoner.

4. W-Leit, Southeast.

During the fateful period for Germany, that is between the summer of 1942 and the spring of 1943, the SIS in the eastern Mediterranean suffered the same lack of orientation as prevailed in the western Mediterranean, due to the disastrous internal politics of the service. Instead of turning the newly organized SIS battalion over to the man who built it up, an old Lt.Col. was first put in command, who was not only completely helpless in the face of his task, but also obstructed any progressive endeavor on the part of his subordinates. Not until February, 1943, and with the advent of a new commanding officer, did the efficiency of the battalion start to improve. From then on the SIS in the eastern Mediterranean began to re-cover the ground it had lost. When Luftflotte, Southeast, was subsequently formed, there began the golden age of this battalion. The SIS was supported in every conceivable way by the Luftflotte Commander, General Fiebig, as well as by his Signal Officer.

Here in the Southeast, more so than anywhere else, the superiority of the enemy in radio techniques was recognized, and monitoring operations were of necessity shaped accordingly. Whereas in the West, and in the Sicily-Tunisia sector, the radar intercept service developed independently of the SIS, and in consequence the results of radar interception never received the fullest tactical exploitation; in the Southeast it was always considered that

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activity of SIS with the most promising future, and was naturally incorporated into it. Thus, from the beginning, the SIS had the results of radar intercept at its disposal, and the latter service could avail itself of the highly developed communication system of the SIS. Considering that this theatre of war was of secondary importance, and that therefore the battalion was provided with relatively modest facilities, even compared to those of W-Leit 2, the battalion's performance in this partisan-ridden country, full of obstacles to operations, was nothing short of superb.

Here also there was notable centralization and specialization in the inner development of W-Leit, Southeast. The new battalion commander saw to it that the 9th Co., IHR 40 was assigned to the battalion, thereby eliminating the last independent SIS company in the Mediterranean. The battalion also supervised the work of the radar intercept company in Crete, and incorporated the latter's evaluation section with its own. Even the Navy placed its radar intercept stations, which were scattered throughout the Aegean islands, under the supervision of the Luftwaffe SIS in the Southeast.

The well-planned expansion of the SIS battalion continued; its HF D/F network was extended to include new stations in Premstaetten, Tirana and Oberhaching (See Figure No. 5).

In order to locate Allied radio beacons and navigational aids, an MF D/F network was established between Pancevo, Sedes, Kalamaki and Tirana. It performed a valuable service in confirming movements of American units, as they were accustomed to take their radio beacons with them when they moved, and to set them up again without changing the recognition signal (See Figure No. 5).

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HF & MF D/F Base Lines
of W-Leit, Southeast

— Fall of 1943 —

~ Legend ~

- MF D/F base line
- ⋯ HF D/F base line
- W-Leit, Southeast
- SIS company
- radar intercept company
- D/F station

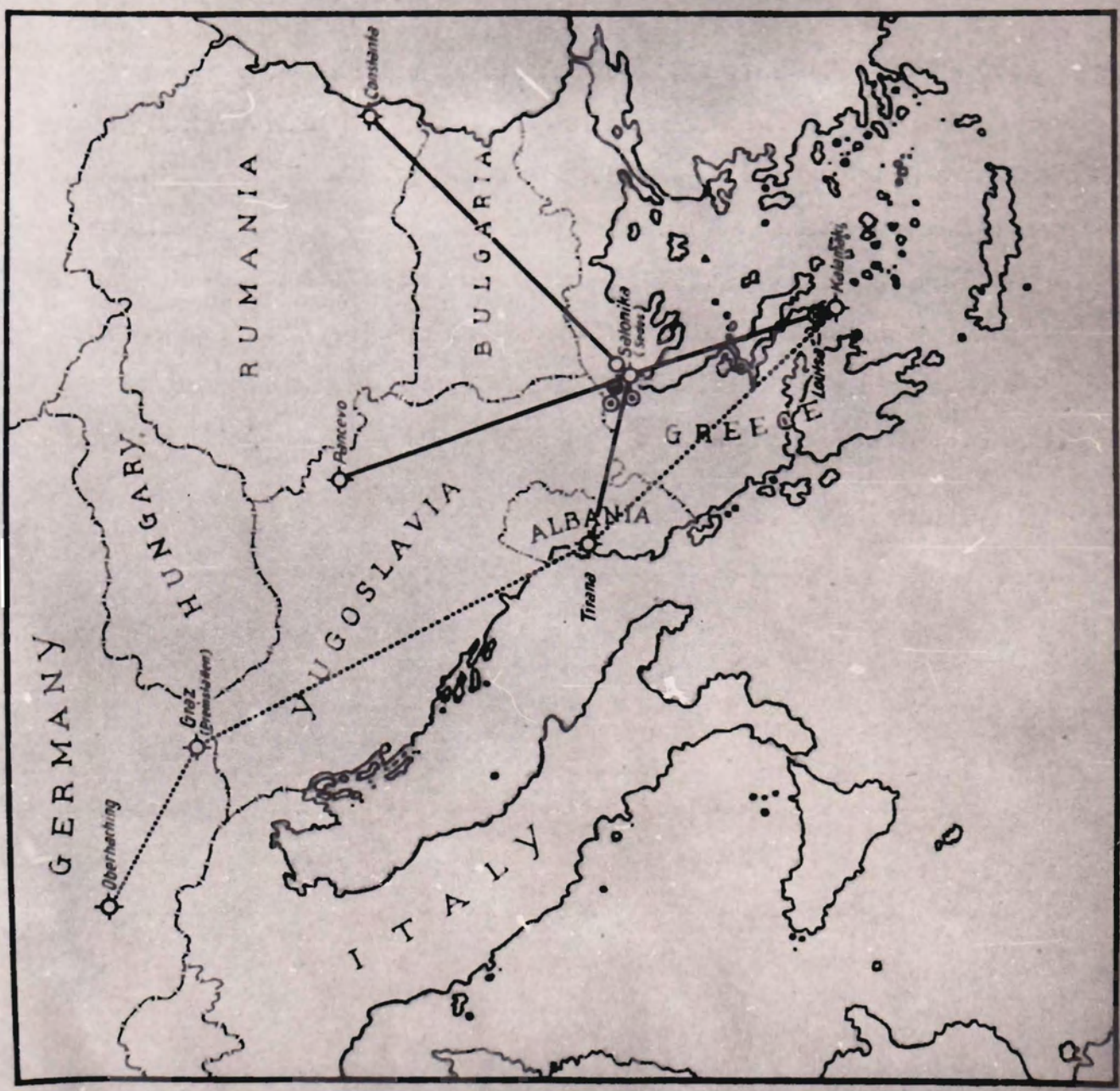


Figure No. 5

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Changes in the disposition of the Turkish Air Force reduced the amount of reception of R/T by the intercept station at Kavalla considerably, which had been monitoring Turkey. Therefore, after several intermediate moves, the intercept platoon was transferred finally to Constanta on the Black Sea. A total of 10 HF receivers were used to monitor the network of the Turkish High Command, individual air brigade networks, and the police and naval traffic.

During the course of 1942, the British had re-equipped almost all their fighters in the eastern Mediterranean with VHF. Therefore, the organization of a fighter warning service in an area eminently unsuitable for VHF interception, because the average distance between the R/T platoons and the enemy fighter control stations was a matter of 700 to 1200 Kilometers, proved a difficult problem. The technicians declared it incapable of solution. Site reconnaissance teams, which did not permit themselves to be diverted by the reasoning of the technicians, proceeded to experiment on the mountains of Crete and Rhodes, and, depending on weather conditions, achieved some surprising successes.

5. 10th Company, IIR 3.

Before the Allied landing in North Africa, an SIS company, which formerly had covered RAF point-to-point networks in the UK, was transferred to southern Lorraine to monitor Vichy French traffic. After Vichy France was occupied by German troops, this intercept company moved to Montpellier, where it took over a share of the coverage of the eastern Mediterranean. A special significance was accorded its work when units of MACAF and MATAF moved to Sardinia and Corsica, and the airfields in southern Sardinia (especially

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Decimonanu) became of decisive importance to the supply route to southern Italy. In addition to air-to-ground traffic, the intercept company also covered the point-to-point networks in North Africa.

C. Strength (See Figure No. 6).

Referat C	50 men
W-Leit 2 (evaluation company)	200 men
3 intercept companies	600 men
1 radar intercept company	200 men
10th Company, LNR 3	200 men
W-Leit, Southeast (evaluation company)	200 men
3 intercept companies	600 men
1 radar intercept company	<u>200 men</u>
Total: .	2250 men

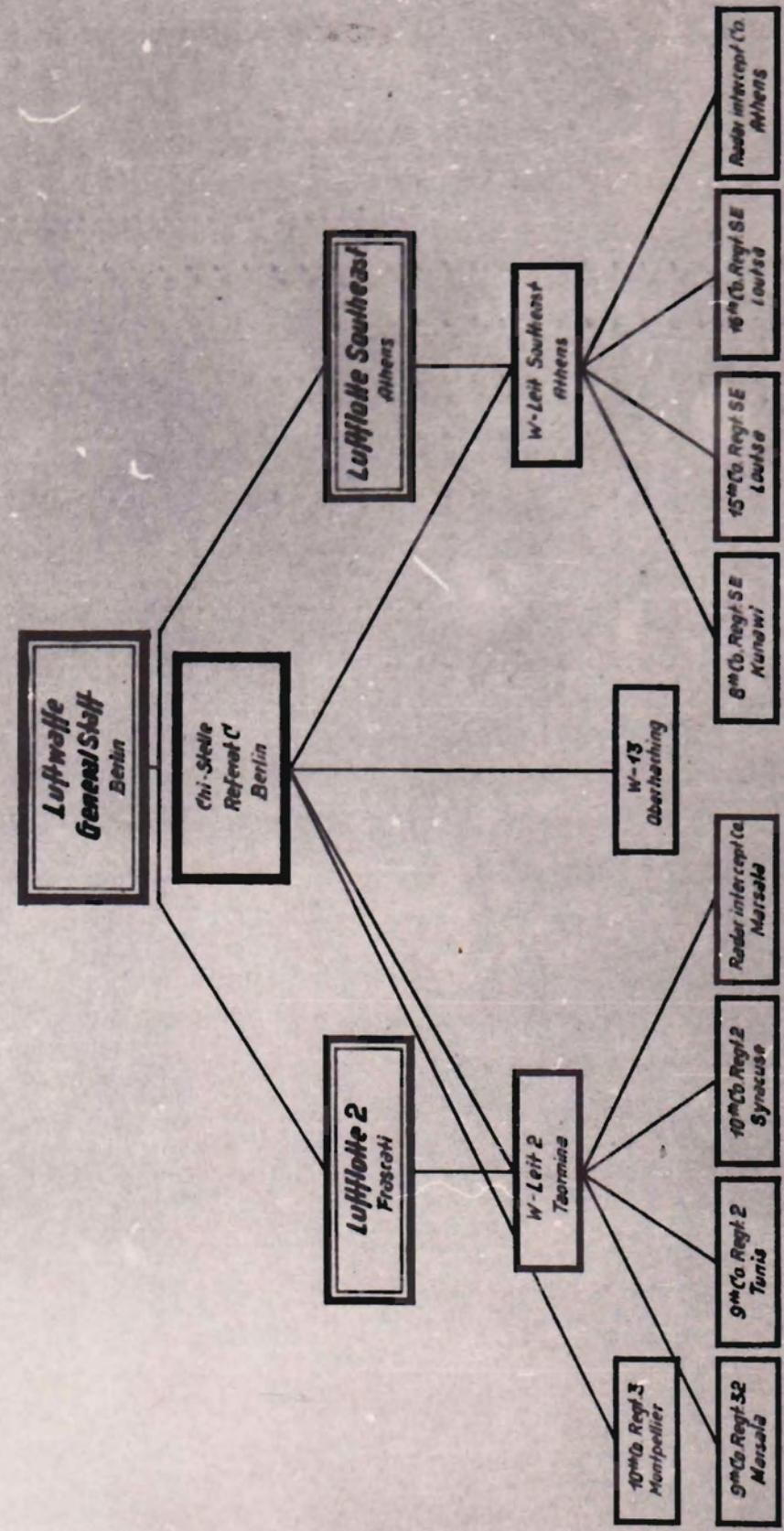
D. Evaluation.

A systematic improvement was possible only in the case of W-Leit, Southeast, as W-Leit 2 was suffering from lack of competent leadership at the time.

Evaluation in W-Leit 2 was still based on sources of intelligence, which not only lacked a co-ordinating factor, i.e., a final evaluation agency, but also, too long a time was allowed to elapse before new types of evaluation, such as that of the VHF traffic of American heavy bomber units, was undertaken. On the contrary, however, W-Leit 2 achieved noteworthy success in its evaluation of air support traffic in the North African theatre, in which field it was a leader.

Figure No 6

SIS Organization in the Mediterranean
Middle of 1943



Evaluation at W-Leit, Southeast, had progressed along the following lines during the period under consideration:

- a) Change-over, after November 1942, to mere traffic and log analysis, after the 4-figure code could no longer be broken.
- b) Evaluation of air raid warning and radar networks.
- c) Beginning of flight path tracking.
- d) Increase in the importance of radar intercept evaluation.

Since the decoding of the British 4-figure traffic became more and more difficult after November 1942, this task had to be turned over to Referat E of the Chi-Stelle in Potsdam. Therefore the cryptanalysis platoon of W-Leit, Southeast, returned to the Chi-Stelle. From this time forth, W-Leit, Southeast evaluated the point-to-point traffic exclusively from its general characteristics. This was facilitated by the experienced log analysis section, in which call-signs and frequencies were identified on the basis of the cryptanalysis work which had gone before. Based upon this detailed knowledge, even changes in call-signs and frequencies did not becloud the signal intelligence picture, once it had been determined. When cryptanalysis was no longer possible, organization and order of battle of the enemy air forces in the Mediterranean were still reconstructed from the monitoring of point-to-point traffic, while tactics, equipment and strength, as heretofore, were obtained from air-to-ground traffic.

By identifying the traffic of the Allied air raid warning and radar organizations in Africa, the evaluation section was able to open a new field of intelligence, which greatly supplemented the results of air-to-ground monitoring. Air-to-ground traffic and air raid warning messages formed the basis for flight path tracking in the Southeast.

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The oldest source of intelligence for flight path tracking was W/T air-to-ground traffic. D/F plotting made this possible. Its true importance became fully apparent at the time of the first Liberator raid on Ploesti. The W/T traffic of the Liberators, which was especially voluminous during the return flight, was D/F-ed during the whole raid, with the result that landings of individual aircraft in Turkey, Cyprus, the Levant and Malta could be precisely determined.

Another source of flight path tracking was the decoding of messages from Allied air raid warning networks in Cyrenaica. The approach flight of heavy bomber units, on their way to targets in Italy or Greece, was invariably reported to the tactical headquarters (Luftflotte 2, Fliegerkorps II or X).

By this system of early warning, a great number of aircraft were shot down on several occasions.

Added to this, later on, was the much more productive and exact method of locating aircraft formations by evaluating the Allied radar networks, which reported every movement of Allied aircraft within range. In this way the evaluation section could determine the exact location and strength of the enemy formations, and, of fighters, the method used to control them.

Just as important to the German Command as early warning was the question of whether there would be an enemy raid or not. SIS could also predict this on the basis of tuning traffic from enemy bombers.

W-Leit 2 was superior to W-Leit , Southeast, in the evaluation of VHF R/T traffic, owing to the more favorable location of its out-stations. The latter had neither advantageously sited out-stations, nor adequately trained R/T operators. Both lacked trained radar intercept operators with a technical

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back-ground. In order to remedy this deficiency, personnel was continually sent to training courses, as well as receiving training within the battalion. Evaluation personnel, experienced in the various fields of analysis, formed the cadre for the radar intercept evaluation section.

E. Signal Communication.

a) With the Chi-Stelle.

Each day both SIS battalions sent to Referat C in Potsdam a daily report by teletype. This report comprised both a tactical and technical section. Teletype was the most practical means of communication between the Referat and the SIS battalions. The telephone lines were subject to interference, and were frequently down. Radio was seldom used, and then only for short reports. The Chi-Stelle, because of its good land-line communication with the East and West, was still addicted to the use of wire.

b) Within the Two SIS Battalions.

W-Leit, Southeast, was superior to W-Leit 2 in the matter of communication as well, despite the greater distances involved, and the partisan activities in the Balkans. In Sicily communication depended principally on the excellent German wire network, even though towards the end of the period under discussion, the Italians committed more and more acts of sabotage, Voice frequency communication (carrier frequency channels with radio links) was set up between Africa and Sicily, and the European mainland.

Land-line communication did not play much of a part within W-Leit, Southeast. Communication with companies and out-stations was largely by means of W/T. For the transmission of flash reports, cipher tables, changed at ir-

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regular intervals were used. Remaining traffic was enciphered by "Enigma", which machines were distributed down to individual teams and detachments.

The so-called "Heinrich" settings were used in connection with the "Enigma" machine. These particular settings were reserved exclusively for the use of SIS, and were changed daily. Moreover, both battalions set up their own W/T communication for passing radar intercept reports, in which the different out-stations were included in networks arranged on a geographic rather than conventional administrative basis.

F. Liaison With Other Units and Headquarters.

The combat units were so accustomed to the monthly reports of the SIS battalions, with their strategic intelligence on enemy organization, order of battle, equipment, tactics and strength, that they were inclined to take these reports for granted. Only when early warning of impending heavy bomber raids enabled the combat units to score new successes, did the prestige of the SIS attain its former eminent status.

For political reasons collaboration with the Italian SIS was continually being ordered. Nevertheless, because of the distrust on the part of the German SIS, it was limited to an exchange of unimportant material. The results of evaluation were communicated to the Italians only with the greatest caution. The Italian SIS, compared to the German, was a purely amateur undertaking, and, especially in the field of evaluation, remained in its embryonic stages. Even in the number of excellent W/T and R/T operators the Italians possessed, did not alleviate that situation.

Cooperation with German Army and Navy SIS proved excellent. It was consolidated by personal contacts between the individual specialists. All

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relevant information of interest to other departments of the Wehrmacht was immediately telephoned to them, and later confirmed by teletype. In this way the centralization attained by the SIS worked out particularly well. The corresponding Army and Navy offices were also put on the distribution list to receive the monthly reports of both SIS battalions.

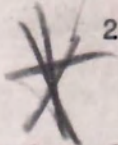
G. Miscellaneous.

1. Landing of the Allies in North Africa (8 November 1942).


For some time prior to the landing, an unusual increase in the radio traffic, and in number of reconnaissance aircraft over the Atlantic and the Western Mediterranean, had been observed. Especially, the missions flown by the Gibraltar reconnaissance aircraft were doubled. The passing of naval units in the harbor of Gibraltar was of course equally noticeable to German intelligence. However, the conclusion drawn from these phenomena was merely to the effect that another major supply convoy from the Atlantic into the Mediterranean was impending. Thus, the German High Command was taken completely by surprise when the landings occurred. The SIS in the western Mediterranean was the least prepared of all for an occurrence of this sort. Nor until three days after the event did W-Leit 2, on being pressed by the Chi-Stelle, send in some logs of traffic between fighters and carriers in the Algiers area, copied by airborne R/T operators. An SIS company in Sicily sent a mixed W/T and R/T team to Elmas, in Sardinia, immediately, and an intercept platoon joined the first German troops in Tunisia. The 10th Co., LMR 3, was hastily transferred from central France to Montpellier. Thus the coverage of the enormous area was gradually organized. Particularly good results were obtained by monitoring the abundant air support networks. In this traffic the Allies gave notice of their intended operations so far in advance, that the German were usually able to take

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very complete countermeasures or passive defense steps.

 2. First Attack on Ploesti (1 July 1943).

After a lull in operations lasting three or four weeks, the oil center of Ploesti was attacked by 130-140 Liberators of the IX Bomber Command on the first of July, 1943. For training purposes the Americans had built a model of the Ploesti oil district, east of Benghazi, on which the bomber crews practised for their first big mission. These rehearsals, which lasted several weeks, were followed closely by the SIS, and therefore the German Command knew that some unusual mission by these heavy bombers was to be expected. The training suddenly ceased on June 28th. For the next few days a notable radio silence prevailed in this quarter. When on July 1st at 0700 hours the ground station 9KW, IX Bomber Command, began transmitting in its customary manner, the German were certain that this day would bring the expected deeply-penetrating raid. Early that morning 9KW sent more tuning messages than it did during any former raid. The beginning of the flight of the 4-engine bomber formations was then reflected in the messages of Allied radar networks. At first, the usual, regular course for targets in Italy was maintained, but suddenly the Liberators turned east at Lake Ochrida, from which point they flew a northeast course to Ploesti.

 From 0700 hours on, the whole southeast sector was in a state of alert. The oil region was put under smoke screen cover, and the local fighter defense was reinforced by fighters from Munich, Vienna and Italy. This was not an unusual practise since both Jagddivisionen 7 and 8, as well as the Upper Italy Fighter Command, were accustomed to re-deploy their fighters to threatened areas upon warning from the SIS. The German Air Raid Warning Service had been able to follow the approach of the Liberators over the Balkans, with some gaps

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in the course. The accumulation of fighters over the target soon succeeded in breaking up the bomber formations, and inflicting heavy losses on them. The return to base was even more catastrophic for the bombers. The W/T that filled the ether, throwing aside all rules of procedure, was telling testimony of this fact. One SOS followed another. The majority of the aircraft flew a direct course home to Benghazi. Five to seven Liberators landed in Cyprus. A number of others landed in Turkey and Malta. The German fighter arm, which had been alerted throughout the entire Balkans, inflicted continuous losses on the homeward-bound bomber formations. The German fighters on Crete alone sent four Liberators into the sea. The SIS confirmed the loss of 75 enemy bombers.

3. Prisoner of War Interrogations in the South.

Interrogation of Allied air prisoners of war in the South, especially in the early days, took place at higher headquarters, without SIS participation. Then, the prisoners were transported to the Dulag Luft in Oberursel. Thus, prisoner of war reports, as a rule, reached SIS evaluation units weeks later, and frequently were already obsolete. SIS stations were forbidden to conduct interrogations. Nevertheless, in some cases, commanders of out-stations were able to participate in interrogations by virtue of their close liaison with the local air commanders. In this way they were often able to effect a quick solution of current problems. It frequently happened that the SIS officer, with his comprehensive knowledge of enemy radio traffic, obtained especially good results. This was particularly true of crews were interrogated directly after an aircraft had been shot down, or made an emergency landing. Thus it was, that an officer of W-Leit 2 in Sicily was able to startle a British pilot, still completely dazed by his misadventure, by

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accosting him with his R/T call-sign, "Tiger-Leader", and, pressing the advantage gained by this surprise, elicited an expansive statement.

The value of the interrogations conducted at the theatre headquarters in Taormina, where W-Leit 2 participated, was most dubious because of the presence of Italian liaison officers. The clumsy procedure whereby each question and answer had to be interpreted into three languages, permitted the prisoners due time for consideration. A solution satisfactory to all parties was found only after the Italian surrender, when a German PWI center in Verona conducted interrogations of this type independently.

From the very start, the SIS battalion sent its monthly reports to this new interrogation center, and submitted its special requests. In certain cases evaluators were sent for a day to Verona. This procedure proved so satisfactory, that soon after, a linguist officer of the battalion was permanently detailed to this task. He was continually informed by telephone of the latest intelligence developments at the battalion, and of special questions which it wished submitted. Supported by this intimate contact with SIS, his interrogations resulted not only in confirmation of previous intelligence, but also in hints that often opened the way to new information at a time when the same could be of value to the SIS.

V. Development of the SIS in the South from the Allied Landings in Italy up to the Activation of the Signal Intelligence Regiment South (LNR 352) (August 1943 - October 1944).

A. General.

Due to the difference in the military situation as between Italy and the Balkans, development of the two SIS battalions continued to expand in

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separate directions. First Badoglio's treachery reduced Italy to an outpost of the Fortress Germany, similar to the situation existing on the Balkan peninsula. This meant that the German Luftwaffe undertook no longer to protect the Italian cities, but held all fighters possible for the defense of the Reich. The weakening of the active fighter defense brought an increasing demand for SIS intelligence to guide the passive air defense. The SIS rendered this service with ever-increasing efficiency.

W-Leit 2 was particularly charged with the duty of following the developments on the front that was forming against the Germans in Italy, and the operations concerned with supplying it. This battalion shared with the 10th Co., LNR 3 the coverage of the western Mediterranean and the enemy transport and supply traffic in this area. Soon after the occupation of Corsica, this company sent a VHF platoon to Mt. Agel, overlooking Monaco, to monitor the MATAF fighters operating from the airfields in northern Corsica.

From the time that the Allied forces landed in southern Italy, W-Leit, Southeast, took over coverage of the Adriatic, whose coast was equally endangered by the threat of an invasion. In the days that followed, this battalion reached its greatest expansion; it absorbed an SIS company in Constanta, which was monitoring the Russian Black Sea Air Force, and, long before events on the battle fronts called for any such step, it prepared bases within the confines of greater Germany, to which it eventually might retire. A change took place in the Luftwaffe organization in the Balkans, when Fliegerkorps X moved from Athens to France, and in the spring of 1943 all Luftwaffe units stationed in the Balkans were assigned to Luftflotte, Southeast.

Both battalions did their share of flight path tracking of the mis-

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sions flown by the Allied bombers which had moved to Foggia, which duty became a principal function of SIS in the South as well. Despite unfavorable working conditions in the Balkans, a shortage of receiving sets, and a high proportion of second-rate personnel, W-Leit, Southeast, especially, turned out a unique performance, thanks to superb leadership.

The organizational development of the SIS in the South culminated in the consolidation of both SIS battalions into one SIS regiment, and the selection of Major Feichtner as regimental commander.

B. Organization.

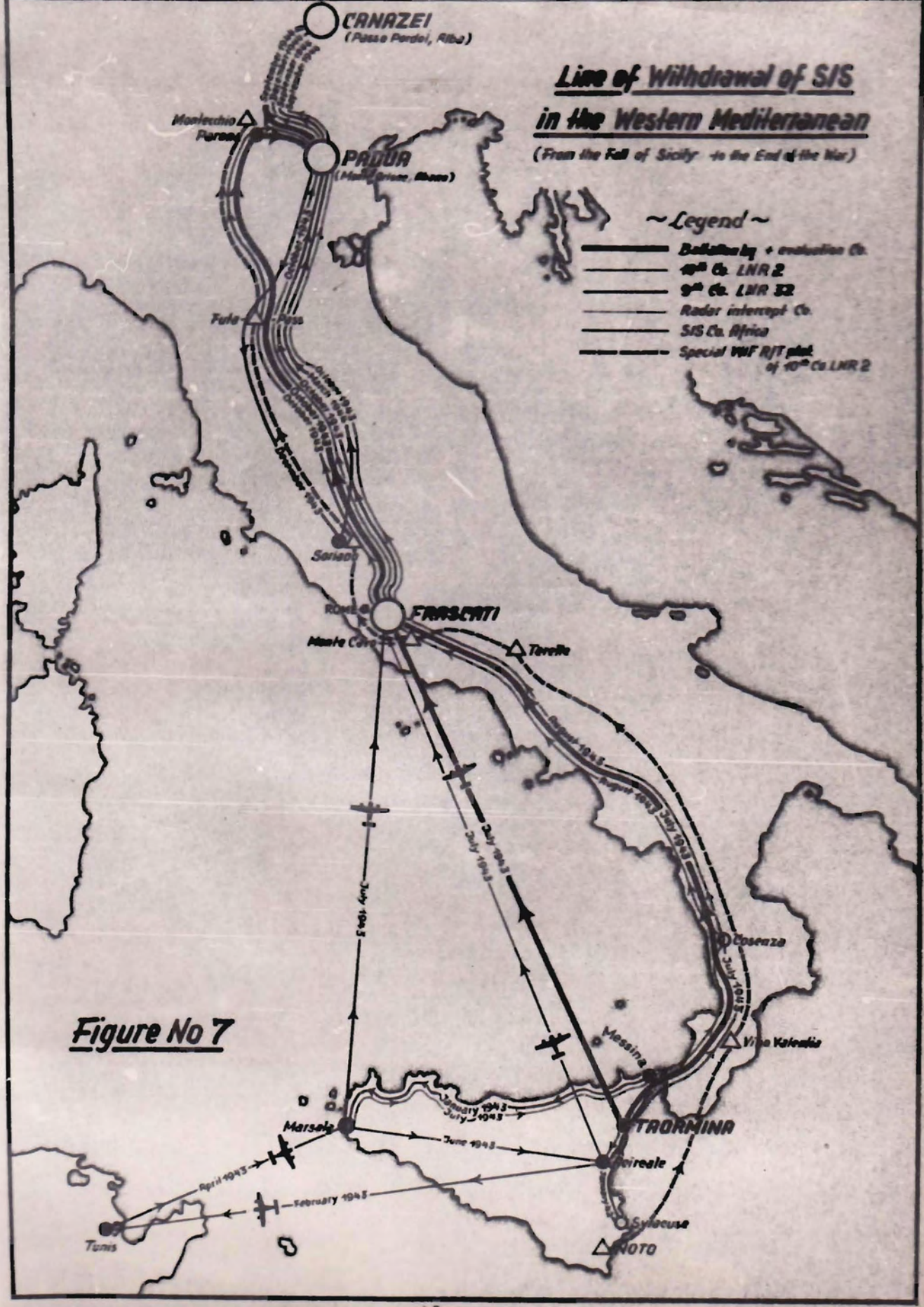
The Allied landings in Sicily and Italy in the summer of 1943, the increasingly untenable position of the German forces in the Balkans, and the break-through of the Russians into this territory after the defection of Rumania, were the factors that determined the organization and disposition of the SIS in the South. Each of the battalions assumed a distinct and special development molded by events in their respective sectors.

1. W-Leit 2 (See Figures No. 7 and 8).

After the loss of Africa, and the systematic conquest of the islands surrounding, a landing on Sicily seemed only a matter of weeks; so as early as June 1943, all the women auxiliaries of W-Leit 2 were returned to Germany. Three days before the landing occurred, the evaluation company was transferred, mostly by air, from Taormina to Frascati, near Rome, while the 10th Co., INR 2 moved into the installations in Taormina thus vacated. The remaining SIS units and out-stations received their movement orders in ample time to move from Messina to Reggio under cover of a gigantic flak barrage, and not a single man was lost. First they assembled in the Luftwaffe Signal

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Line of Withdrawal of SIS
in the Western Mediterranean
 (From the Fall of Sicily to the End of the War)



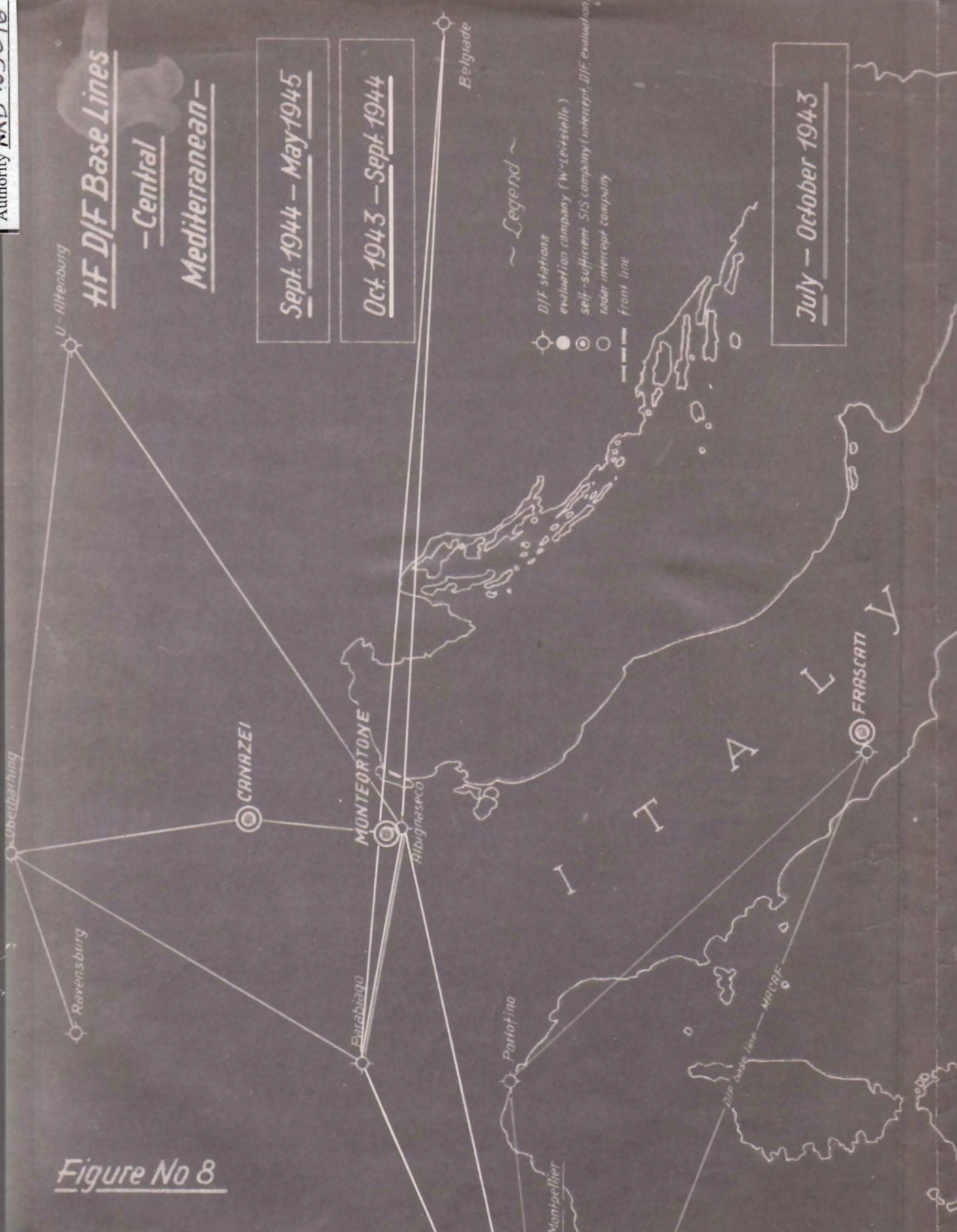


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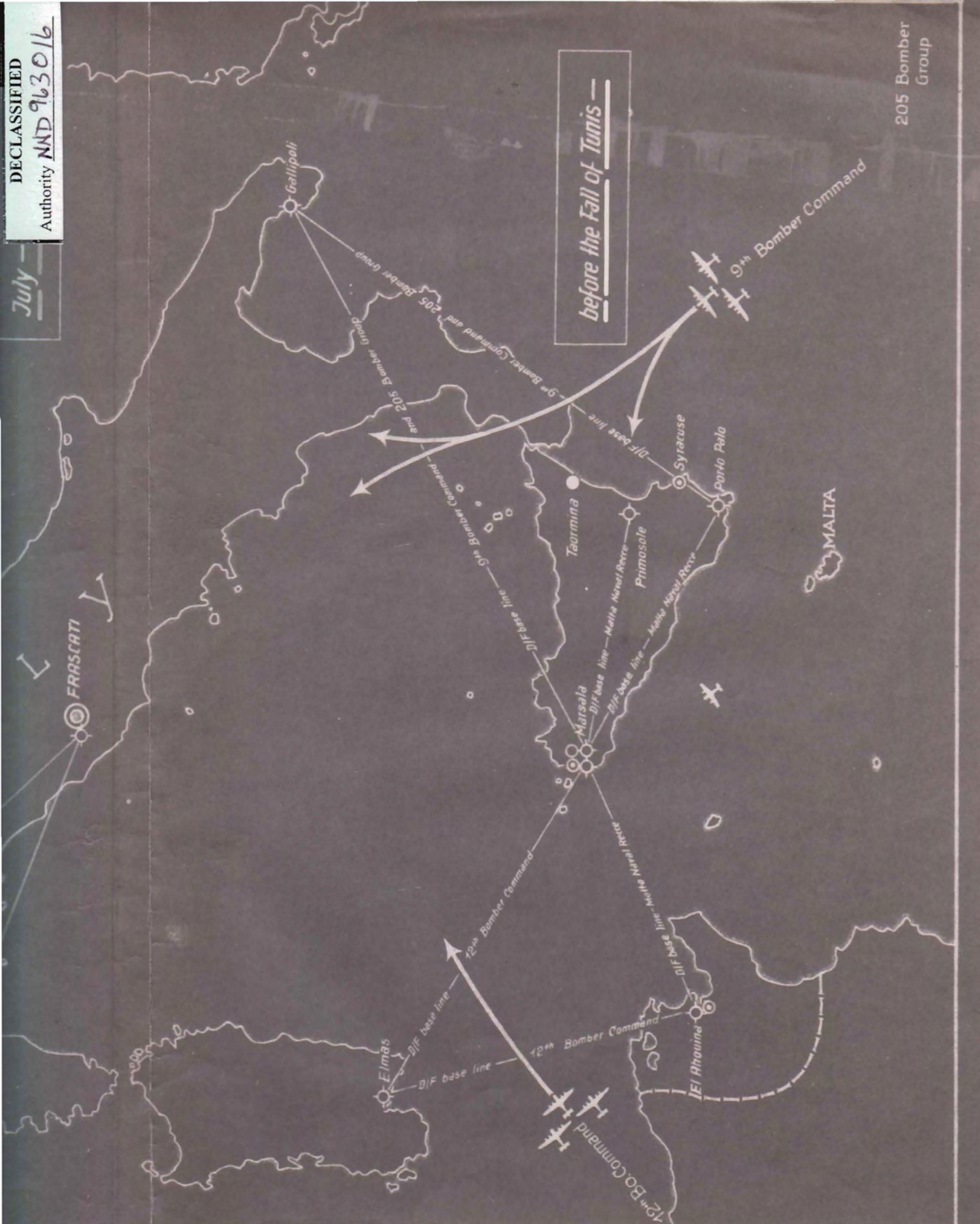
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July

before the Fall of Tunis

205 Bomber Group



HF D/F Base Lines

- Central -

Mediterranean -

Sept. 1944 - May 1945

Oct. 1943 - Sept. 1944

July - October 1943

Legend

- D/F stations
- evaluation company (W-Levstalle)
- self-sufficient SIS company (intercept, D/F evaluation)
- radio intercept company
- front line

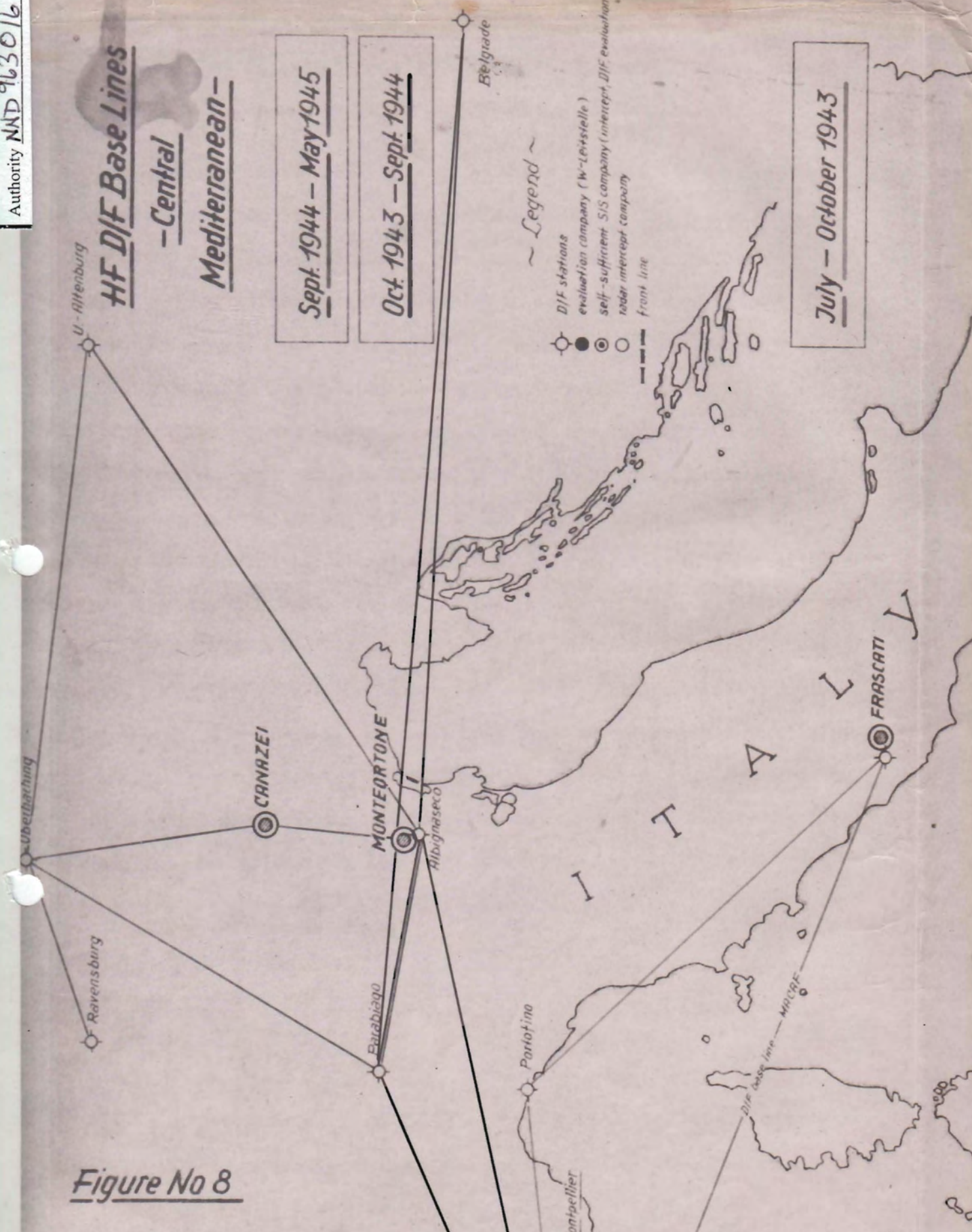
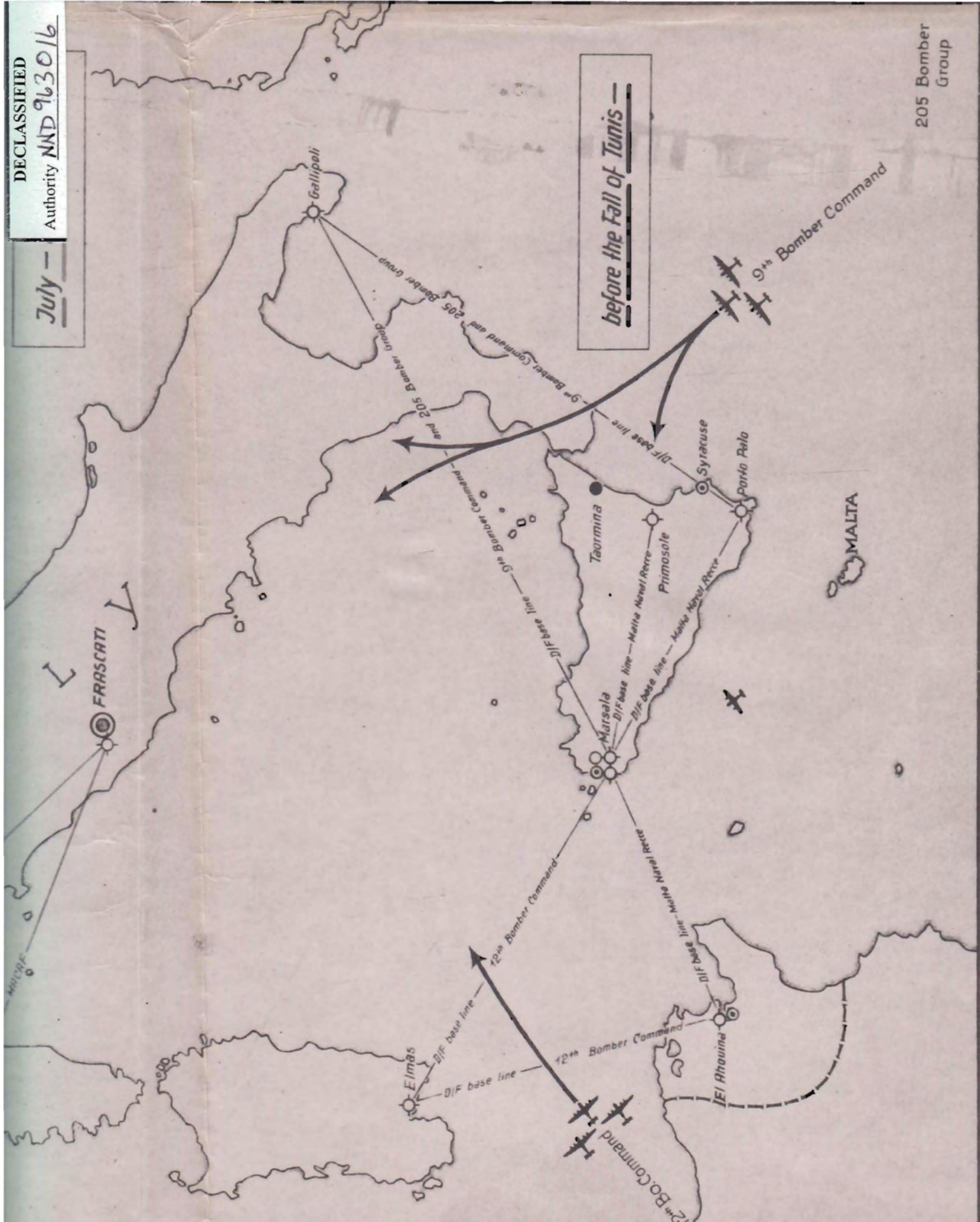


Figure No 8

July -

before the Fall of Tunis -



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Corps assembly area at Cosenza, and then moved in stages to Frascati, except for one large VHF platoon, which took up a position in Terelle.

Here the battalion was taken unawares by the Italian surrender. The land-line communication with Germany was so badly mauled by the Allied bombing attacks on the Alpine passes, that the German Command had to rely on Allied air support messages, intercepted in southern France, to keep informed of the ground situation in Italy. Throughout Italy, treachery was the rule. The Italians suggested the bombing of Frascati, where the entire staff of Luftflotte 2 was located, and had marked off the location of the SIS battalion on a map, with the special indication "German Intelligence Service". So, on 8 September 1943, about 170 B-24's flew over the town and reduced it to dust and ashes. Among the 6000 fatalities of this raid were 36 members of the former SIS Company, Africa, a bomb exploding right in their dugout. The battalion had already set up 66 HF receivers in Frascati. Now it moved, as rapidly as the hopeless travel conditions in Italy allowed, to the Padua area, where once again it set up a large HF intercept station. Here the battalion staff, which had compromised itself many times in the course of the retreat, together with the company commanders, were all relieved, and all key positions were filled by a new group of officers.

For two months on end, the SIS battalion had virtually ceased operations. Only the VHF platoons and a few radar intercept stations remained in operation, and furnished the combat units the indispensable flash reports.

After the move to the Padua area, a radical reorganization took place. First, the evaluation company was overhauled completely, so that it

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could cope with all tactical requirements. Then, a large HF intercept installation was set up in the Padua area, which was the most modern of its kind. The number of its receivers increased to about 100. It had also a very large D/F section. The 10th Co., INR 2 devoted itself exclusively to D/F, while the reinforced SIS Company, Africa, took over all HF interception. The 9th Co., INR 32, with its VHF and radar intercept out-stations, remained with Air Command, Italy, in Soriano near Viterbo, so that this headquarters possessed a complete SIS exclusively for its own purposes, right in its own area. This solution was arrived at in view of the constant difficulties with signal communication since the Italian surrender, and proved extremely satisfactory. The 9th Co., INR 32, specialized in monitoring the tactical air forces and the air support networks. Its work benefited not only the German air forces, but was at the same time vitally important to the German divisions on the Italian front. The number of artillery emplacements, motor convoys, freight trains, naval convoys, airfields, headquarters, etc., which were given timely warning in this way was indeed legion.

But the results of the coverage of the tactical air forces were only a small portion of the achievements of the battalion. Another considerable task was the interception of the traffic of the medium bombers, which constantly harrassed the roads and railways of central and northern Italy, operating from their bases in southern Sardinia. W-Leit 2 exceeded its commitment for the Italian theater by contributing to the flight path tracking of the heavy bombers based in the Foggia area, whose mission was the strategic bombing of the Reich. For this purpose two girdles of R/T out-stations were set up in Italy. Since the bomber formations of the 15th Air Force generally divulged their take-off on HF R/T, especially during the first months of their activity, and

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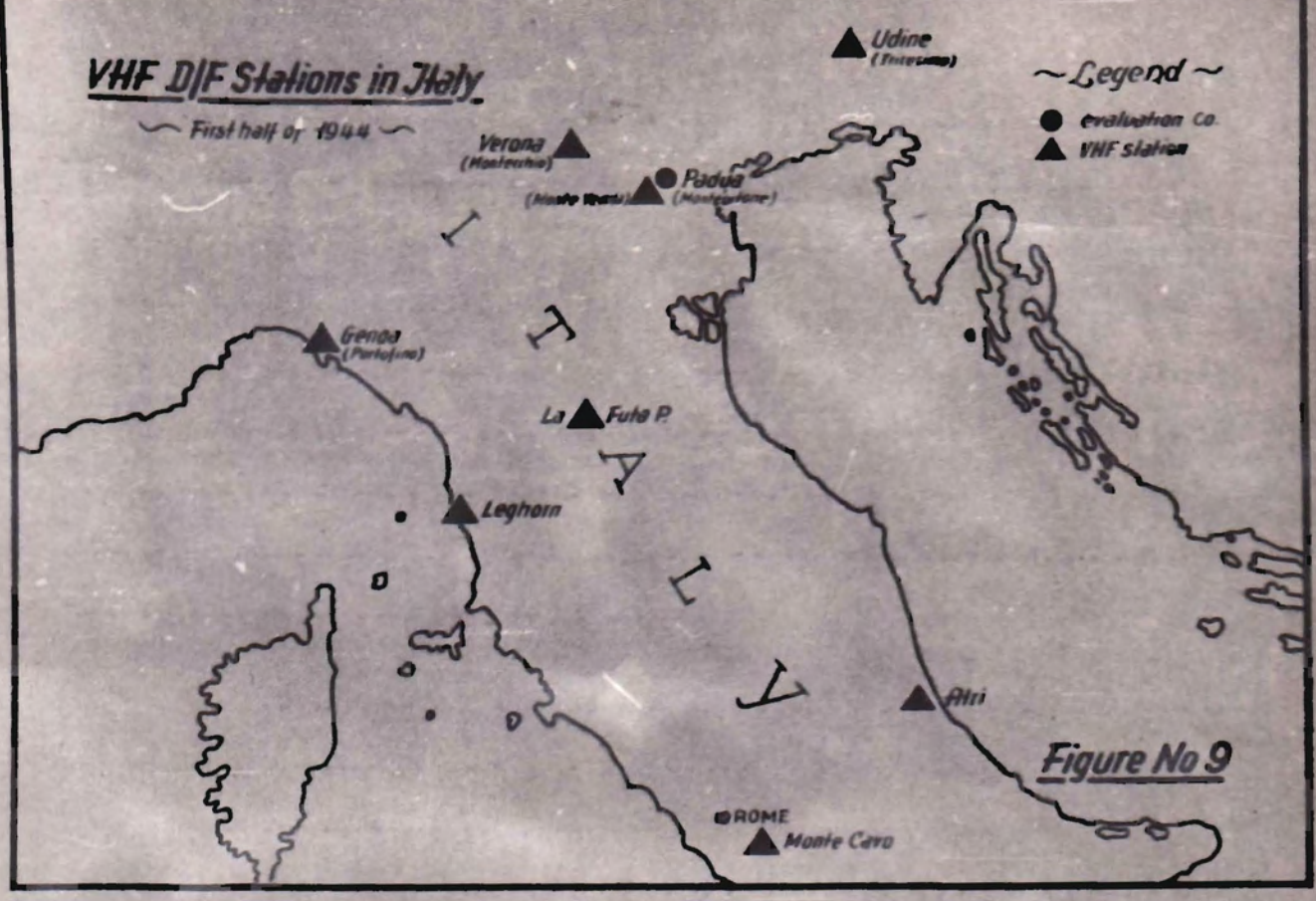
the nearest team intercepting this traffic of low signal strength was only 30 Km. behind the front lines, this constituted the first reliable source of early warning. The first girdle of R/T out-stations comprised VHF R/T detachments in the environs of Genoa and Leghorn, and on Monte Venda; the second consisted of detachments on the Futa pass near Verona and Udine. The R/T platoon sited on Mt. Agel, above Monte Carlo, covered VHF traffic from Corsica, insofar as it was concerned with operations against the South of France. When central Italy was attacked, the out-station in Portofino maintained intercept coverage (See Figure No. 9).

After the change in leadership mentioned, the battalion recovered rapidly. The warning service, developed from the monitoring of Allied air support and radar networks, as well as from R/T traffic, was of decisive importance to the German Army Group in Italy. Its monthly reports, were exemplary for their intelligent co-relation of material and thorough interpretation. Both battalions competed with each other in flight path tracking. After the monitoring of Africa lost its importance, the intercept sites of W-Leit, Southeast, proved better than those of W-Leit 2; however, the latter still had more experienced personnel. However, in the field of radar intercept W-Leit, Southeast, still remained supreme. Indeed, towards the end of 1943, the radar intercept section at W-Leit 2 was dissolved as such, though the company continued radar intercept evaluation as a unit function. However, radar intercept never achieved the significance in the western Mediterranean that it did in the Balkans, largely for the reason that qualified specialists were never available to the former.

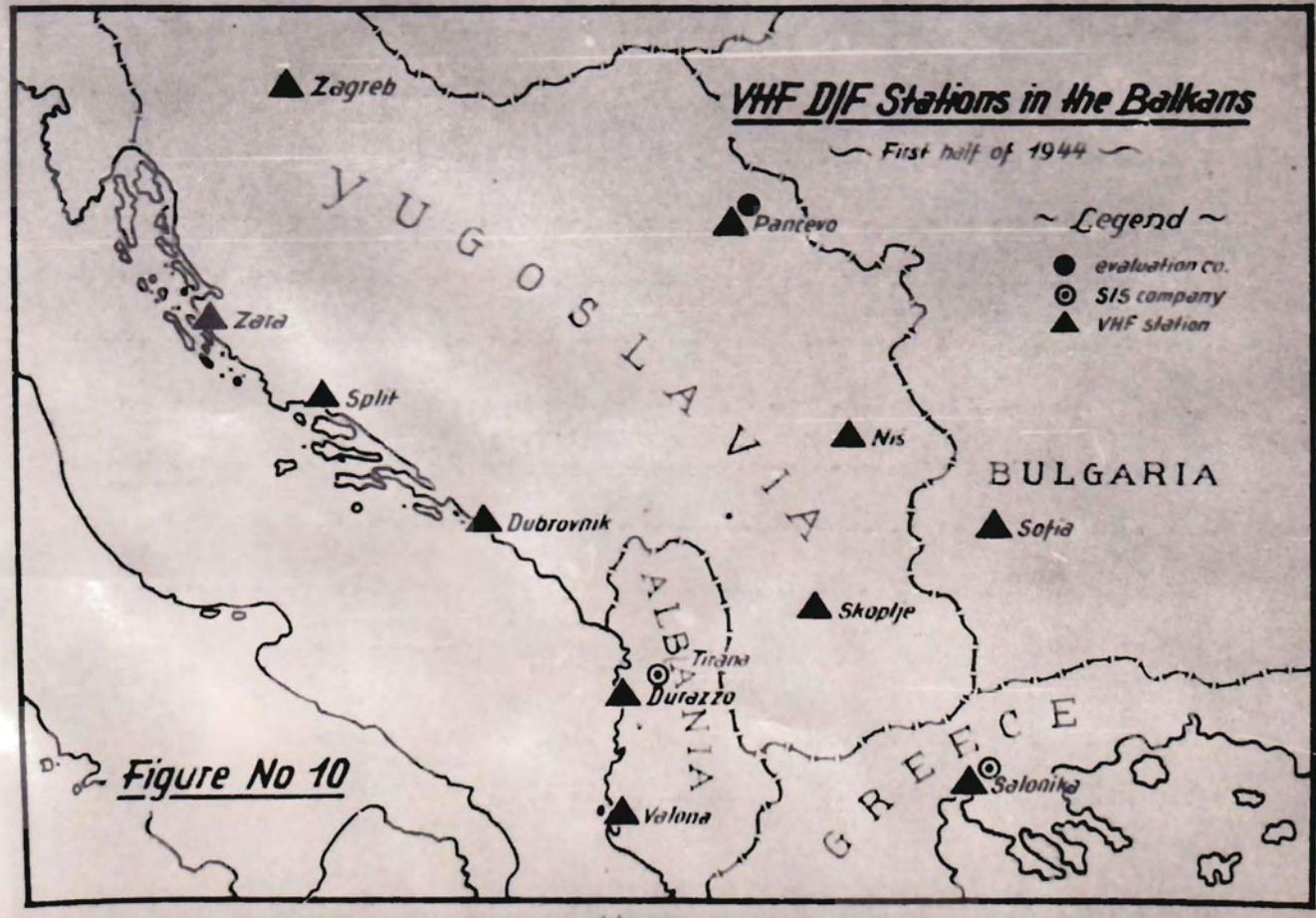
After the Allies broke into the eastern extremity of the Po Valley in September 1944, the battalion, together with its evaluation company

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VHF D/F Stations in Italy



VHF D/F Stations in the Balkans



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and an intercept company, moved to Canazei in the Alps, while both its other companies, with their out-stations, remained at their old sites. Before the capitulation these out-stations also retired to the Canazei area.

2. 10th Company, LNR 3.

This company represented the link between W-Leit 2 and the SIS Regiment West, to which latter it was assigned administratively as well as operationally. It had its own HF D/F stations located in Biarritz, Bordeaux, Montpellier and Genoa, and a VHF D/F system comprising stations in Toulon, Mont Agel and Portofino. Its tactical evaluation section worked closely with the combat units based in the South of France, which operated principally against convoys along the coast of French North Africa. Most of their coverage was directed against MACAF in the western Mediterranean, while Malta-based reconnaissance was monitored by W-Leit 2. The 10th Company, LNR 3 was responsible for the sinking of the Italian battle ship Roma. In addition, the company had attached to it a small intercept platoon, which covered take-off and landing traffic of the North African, southern Italian and Sardinian airfields on 6440 Kcs.

The monitoring receivers of the 10th Co., LNR 3 were controlled by Referat C, of the Chi-Stelle and assigned as follows:

- MACAF (air-to-ground and point-to-point) 25 receivers
- Free French traffic in Africa 3 receivers
- HF R/T on 6440 Kcs. 5 receivers

Added to these were four to six VHF receivers of the intercept platoon "Golf-club" on Mont Agel.

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This intercept platoon enjoyed the same sort of favorable site for observing Corsica as the Noto station had the year previous with respect to Malta. If its results were not so brilliant, that was because the personnel was less experienced, and also because the MATAF units based in northern Corsica, flew more often into northern Italy than southern France; therefore, after their assembly they generally had to be turned over to the intercept platoon at Portofino. The "Golfclub" platoon did very well when medium bombers of the 12th Air Force attacked lines of communication in southern France, if German fighters were available to send against them. The platoon had followed closely the preparations for the invasion of southern France. After the Allied landings, it worked its way back to Germany by way of Italy, without losing any men or sets. Its parent company had moved from Montpellier to Avignon as early as May 1944, and from there, as the invasion progressed, it went on to the Freiburg area in Breisgau, where it once more joined the Western SIS Regiment.

3. W-Leit, Southeast.

Just as the advance of the bases of the fighter bombers was of decisive importance in the operations of the SIS battalion in Italy, so did the transfer of the heavy bombers from Tunis and Benghazi to the Foggia area affect W-Leit, Southeast. The out-stations on Crete, Rhodes and Pyrgos for radar and R/T intercept proved of no value when the 15th USAF flew in from the west against targets in the Ploesti oil area, and the capital cities of the Balkans.

In order to protect the exposed west flank of this area, out-stations had to be established with all possible speed along the Adriatic

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coast. Because the Balkan mountains rose sharply to the eastward, two cordons of VHF R/T and radar intercept stations had to be set up: The first along the coast in Valona, Durazzo, Dubrovnik, Split and Zara; the second, farther back, included stations in Skoplje, Mis, Pancevo, Zagreb, Salonika and a mountain near Sofia. A basic condition pertaining to this cordon was that the stations should not be more than 300 Km. apart, so that each could hear any transmitter within 150 Km. of its own site, the maximum effective range for VHF reception. Personnel was drawn from the Aegean positions to man these stations. Besides the monitoring of ground radar, the radar intercept stations had the prime mission of D/F-ing Allied IFF during a raid. D/F-ing of ASV and shipborne radar guarded against surprise attacks by seaplanes and enemy naval units. Since the intercept stations on the Adriatic were in some cases directly opposite the airfields in Italy, used by the heavy bombers, and therefore promised excellent results, the Chi-Stelle, rather exceptionally, granted a large number of sets to the Southeast for this purpose (See Figure No. 10, Page 44a).

The basis for flight path tracking in the Balkans was always the evaluated intercepts from the Allied radar reporting networks. In order to be certain of hearing them after the transfer of the heavy bomber groups from North Africa to the Foggia area, a large intercept platoon, later expanded to a company, was moved to Tirana, in Albania. Its mission was the interception and tactical evaluation of the positions of bomber formations broadcast by the radar stations, and the passing on of this information to the Albania Air Command. These reports were also sent to the battalion, which in turn transmitted them to the operational CP's in the Balkans, which might be concerned. The units and CP's interested in these reports were authorized to listen in on the broadcasts of the SIS Battalion, Southeast.

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The interception and evaluation of weather reports which appeared in tactical traffic, and which had been done successfully since the beginning of the monitoring of supply traffic, had to be turned over to the chief weather station at Luftwaffe Headquarters, owing to the increasing commitments of the battalion. This function had provided all interested parties in the Mediterranean with enemy weather data, and in consequence the German High Command spared itself the trouble of sending up weather reconnaissance aircraft in this theater. At the same time, after the central African supply route lost its significance, due to the changed situation in the Mediterranean, the coverage of this traffic was turned back to W-13 in Oberhaching.

When Fliegerkorps X moved from Greece to France in the fall of 1943, and German air power in the Balkans thereby suffered a serious reduction, the SIS company Crete was withdrawn to Loutsia near Athens. In view of the ever-worsening military situation in the Mediterranean, Luftflotte, Southeast, moved from Athens to the more centrally and favorably located city of Salonika. The battalion followed with the evaluation company, two intercept companies, and the radar intercept company. In Salonika preparations were immediately made to move the SIS battalion to Pancevo, near Belgrade. In this way it was possible to set up an intercept installation which fulfilled the highest demands that could be made upon it. The installation in Loutsia was one of the largest of its kind, to be sure, but the set-up in Pancevo comprised 26 rhombics, which had an angle of refraction from Turkey to northern Italy, and was the largest rhombic antenna installation of Europe. In January 1944 the battalion moved from Salonika to Pancevo, once again in the wake of the Luftflotte. The battalion was further expanded after its arrival in Pancevo. The flights of heavy bombers, reaching ever deeper into southern Europe,

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made it necessary to erect new radar intercept stations in Alexandrupolis, Braila, Debrecen and Budapest. With the reoccupation of the fixed intercept station in Premstaetten, the battalion located itself for the first time on German soil. At this time the SIS company in Constanta was assigned to it; this company operated against Russia with out-stations in the Crimea. Thus, the outposts of the battalion were spread over an area which extended from Crimea to Crete, and up to Munich and Styria. There were seven companies in all, which formed a larger organization than the signal regiment of Luftflotte, Southeast, to which it was still assigned administratively.

In order to assist German reconnaissance aircraft, the battalion set up fighter warning stations on Rhodes, Crete, and later in Durazzo, in the spring of 1943. These stations received and possessed the reports and observations of the VIF and radar intercept stations, and the information was broadcast to the aircraft on the tactical reconnaissance frequency. Six months later, after moving from Athens, W-Leit, Southeast, set about erecting a central Meldekopf for the whole Southeast. Later, in Pancevo, the Meldekopf was expanded further. Good land-lines, made available by Luftflotte, Southeast, enabled the battalion for the first time to communicate with most of its companies and out-stations by direct wire. This circumstance had a favorable effect on flight path tracking.

In addition, the entire HF coverage for heavy bombers was concentrated in one intercept company in Pancevo. Also, a D/F center with HF and VIF D/F's, and radar intercept receivers, was established at Pancevo. Concentration of the means of communication, and direct cooperation between out-stations and Meldekopf, perfected the flight path tracking service. Dif-

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difficulties were encountered in following the night intruder missions of 205 Group, RAF, owing to its radio discipline and its habit of flying in very small formations. But when a Korfu 812 receiver picked up a formation of this group, at a great distance, prior to an attack on Bucharest, and thereafter most radar intercept stations were fitted out with these sets, this unit presented no further difficulties. (D/F-ing the IFF made it possible to differentiate between bombers, and aircraft on supply-dropping missions. In the beginning of 1944, the Allies appeared to be aware of the disadvantages that derived from leaving the IFF turned on, as most formations turned them off upon crossing the coast, or got rid of them entirely.)

The most modern method of flight path tracking was D/F-ing the Allied panoramic devices. Thanks to the installation of H2X in P-38 weather aircraft, it was possible to notify German headquarters of the 15th Air Force's target for the following day, during the last period of the war. The reconnaissance aircraft pilot, when over the prospective target area, increased the pulse recurrence frequency (PRF) of the "Mickey", probably to photograph the scope picture, and this higher PRF could be distinguished in the head set of a German Naxburg receiver. As D/F of H2X enabled the position of the reconnaissance aircraft to be ascertained at all times, it could easily be determined where the photographs were taken.

The performance of the Meldekopf, the facilities of which were always being improved and made to conform more and more to the requirements of a war of movement, contributed notably toward the high regard in which the battalion was held by the German commanders in the Southeast. After the battalion's retreat, necessitated by the break-through of the Russians, it was

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re-established at Premstaetten; shortly thereafter it was consolidated with the then unsatisfactory Meldekopf, Vienna, to form a central Meldekopf for the Southeast. Later, when the Russians threatened Vienna, it was installed in busses, and in this way remained operational until the last days.

At the time of its apex, and greatest geographical expanse, in the first half of 1944, the SIS Battalion, Southeast, comprised the following units: (See Figure No. 11)

- 1 evaluation company with Meldekopf and radar intercept center in Pancevo;
- 1 HF intercept company with 30 receivers in Pancevo (air-to-ground traffic of 15th Air Force, radar and air raid warning networks, Balkan Air Force, command and liaison networks);
- 1 HF intercept company with 30 receivers in Pancevo (point-to-point networks of 15th Air Force, 205 Group, ANQ Middle East, and transport);
- 1 intercept company in Athens with out-stations on Crete, Rhodes, and the Aegean islands (air-to-ground traffic in eastern Mediterranean, about 18 receivers; in addition, R/T teams with HF and VHF receivers, and radar intercept stations);
- 1 intercept company in Tirana, with out-stations in Valona, Durazzo, Dubrovnik, Split and Zara (HF and VHF teams, and radar intercept stations);
- 1 intercept company in Constanta, with out-stations in the Crimea and in Stara Zagora; and three radar intercept stations on the Turkish border (Black Sea, seven HF receivers; 10 receivers for Turkish traffic);
- 1 Radar intercept company with out-stations in Bulgaria, Rumania and Hungary.

When Bulgaria and Rumania joined in the fight against Germany, these out-stations in the Balkans had to be withdrawn in haste. The radar

***Greatest Expansion of
 W-Leit Southeast***

~ Middle of 1944 ~

Legend

- Evolution co. and 2 WJT int. co.
- SIS company
- Radar intercept platoon
- WJT intercept platoon
- DJF station
- △ VHF and radar intercept our station
- △ VHF out-station
- × Radar intercept out station
- ▨ Area of the SIS Co. Constantia
- ▨ Area of the SIS Co. Athens
- ▨ Area of the SIS Co. Tirana

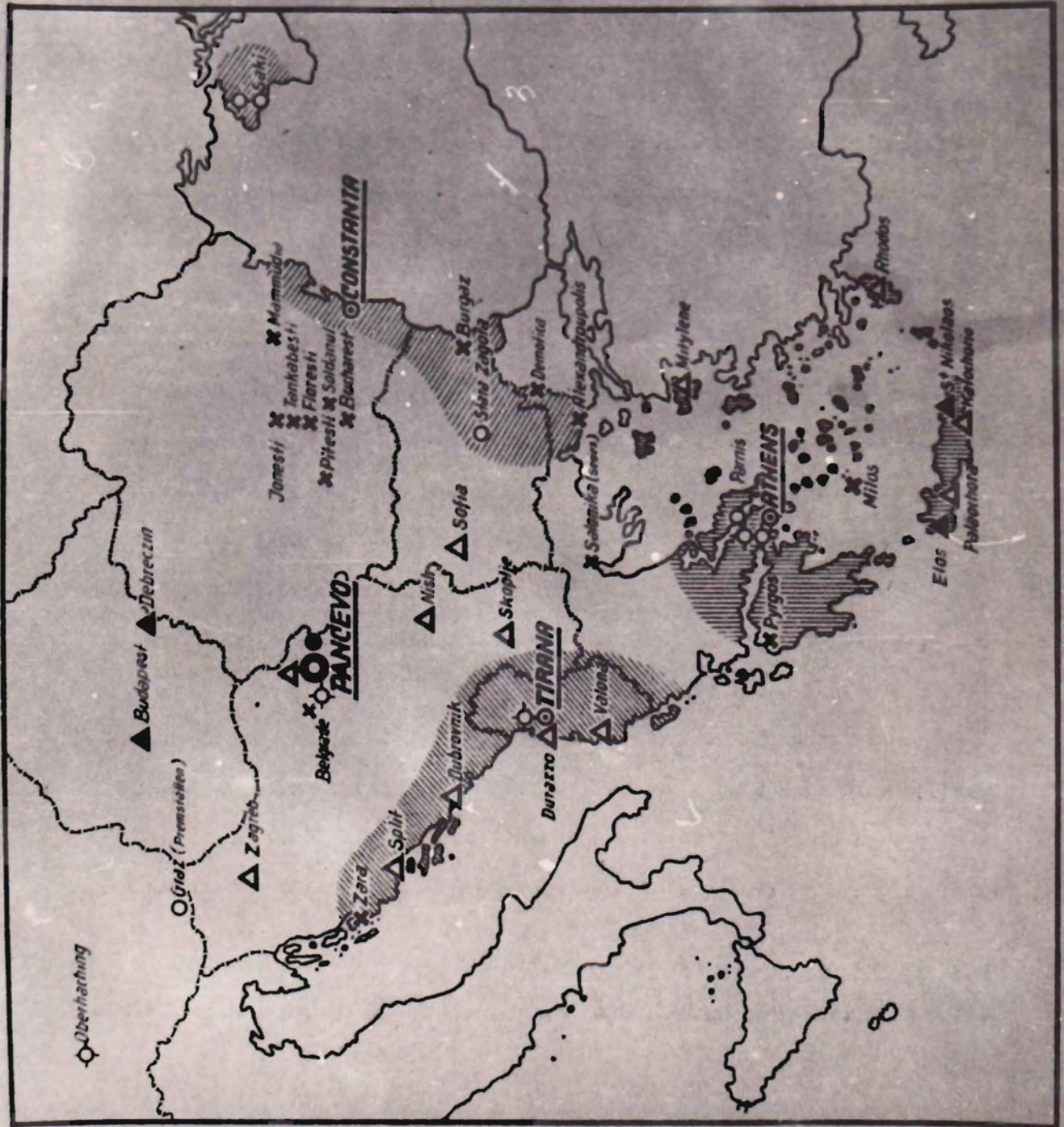


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intercept stations were, in part, set up again in Hungary, or used to reinforce other stations. When the Rumanian and Russian forces had advanced on Temesvar, the companies in Pancevo withdrew according to orders, to the previously prepared station in Premstaetten near Graz. Only the excellent D/F center personnel in Pancevo remained at its post until the Russian columns were just west of Pancevo and threatened the route of escape. Meanwhile the intercept company in Tirana had withdrawn its out-stations, and by dint of uninterrupted engagements with partisans, fought its way up to the Marburg area, having joined forces with a combat group likewise down there. It set up operations again in the Marburg area. The battalion had done an exemplary job in providing for the evacuation of its detachments on the lonely islands of the Aegean, all of which were evacuated safely. The SIS company in Athens had retreated in time. A platoon of the SIS company, in Constanta was captured by the Rumanians, and the remainder of the company joined the SIS Regiment East (See Figure No. 12).

After all these withdrawals, the battalion assembled in the Graz area, while at the same time W-Leit 2 withdrew from Italy to the Alps. Both battalions had to be rebuilt from the ground up. The problem of the reorganization of the SIS in the South again became acute. Since there was already an SIS Regiment in the East and the West, the two battalions in the South, which were drawing closer all the time, were united into one SIS regiment. From the point of view of key personnel, this unification was a compromise solution, as both battalions had done equally well in the last year. W-Leit 2 furnished the backbone of the regimental evaluation company, and W-Leit, Southeast, provided the regimental commander.

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4. Referat C.

The prestige gained by this Referat during the previous year increased considerably when the evaluation company of W-Leit 2 ceased operations for a time, as a result of the Allied landing in Italy and Badoglio's capitulation, and the Referat had to take over the evaluation of the material intercepted in Italy. However, the Referat was not able to retain this position of leadership. After the reorganization of W-Leit 2, instead of occupying itself exclusively with final analysis, and placing all superfluous personnel at the disposal of the battalions, it retained an extensive and bureaucratic office machinery, even though its work was decreasing in importance, since tactical evaluation had become the most vital service rendered by the SIS. Nevertheless, the Referat rendered a valuable contribution in following the growth and disposition of the Allied Mediterranean air forces. After the formation of the SIS Regiment, South, the intention was to merge the Referat and the regimental evaluation company as had been done in the case of the SIS Regiment, West, after its withdrawal from France. The Russian winter offensive, in January 1945, and the acute transportation situation in Germany, delayed the timely execution of this plan. When the Marstall had to be evacuated in February 1945, as a result of the threatened position of Berlin, a portion of the evaluators was turned over to the Army for use in the defense of the capitol, and the remainder was sent to the regimental evaluation company. The final monthly reports sent out by the regiment were given distribution according to both the regimental and Chi-Stelle distribution lists.

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C. Evaluation.

The length of the war made it possible for evaluation sections to accumulate a great wealth of experience, and highly qualified specialists. The exchange of intelligence data between the West and the South was, on one hand, accomplished through the Chi-Stelle; on the other, by exchanging officers and evaluation specialists on a temporary duty status. Seen as a whole, the development of the evaluation sections ran parallel. The emphasis in evaluation shifted more and more from the strategic to the tactical. This accounts for the increasing importance of the two battalions over Referat C in this final year of the war.

Both SIS battalions had created a highly sensitive apparatus in their well integrated intercept companies, out-stations, SIS liaison officers, and central evaluation companies. It reacted immediately to every undertaking or change on the part of the enemy. The battalions made their contribution to the defense of the Reich as well, by early warning, and tracking of the heavy bombers. W-Leit 2 and Meldekopf, Southeast, had direct wire communication with the ZAF. Later Meldekopf, Vienna, became the information center on flights of bombers from the South. Here, as in the West, a clear distinction was made between tactical evaluation, in which the Meldekopf was engaged, and final analysis, which was reserved to the evaluation company. Up until the last moment, the SIS kept pace with the developments of enemy radar.

D. Signal Communication.

The decisive importance of tactical evaluation called for a highly developed and serviceable communication network. Whereas strategic intelligence could be forwarded to headquarters concerned by courier, tactical re-

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ports had to be dispatched immediately, and by electrical means, in order to permit prompt countermeasures. In Italy, good communication was achieved by grouping intercept and D/F stations, and by establishing advanced SIS CP's. In the Balkans, the SIS possessed its first good land-lines in Pancevo, thanks to Luftflotte, Southeast. The Meldekopf in Pancevo had direct lines to all larger tactical air headquarters. Radio was, of course, an additional facility.

The VHF and radar intercept reports, at first sent through separate channels, were later dispatched over the same networks. These networks were so organized that even in the event of an accumulation of messages, no one station would be overburdened.

After the enemy forced the withdrawal to Premstaetten, the land-line problem became acute for the SIS Battalion, Southeast, as the only lines (underground cable) between Graz and Vienna were constantly being severed by bombing attacks. For this reason Attersee in Salzkammergut, along the line of withdrawal, and where there was an important junction of telephone lines, was chosen as the next SIS headquarters.

E. Liaison With Other Units and Headquarters.

From the time that bombing attacks on the Balkans and southern Germany were intensified, SIS liaison officers were assigned not only to operational headquarters, but to combat units as well. All had wire and radio communication with both SIS battalions of the South. Two or three times each day they were apprised of the air situation by telephone and imparted this information at the planning and briefing conferences. As flight path tracking was perfected, the SIS liaison officers gradually developed from assistants

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of A-2 to advisers of A-3. Since the Air Raid Warning Service often failed to keep abreast of the grand-scale operations of the 15th Air Force, especially when it raided in small formations, SIS provided the only means of obtaining a reliable air situation report. Moreover, in contrast to the Air Raid Warning Service, SIS could report strength and type of aircraft. In the war room of the fighter commands and Jagddivisionen, a map of the situation as reported by SIS was maintained, as well as one for reports of the Air Raid Warning Service. This won many friends for SIS at the operational CP's. Units and CP's received SIS predictions of raids, and probable targets, sometimes hours before the raids began. Later on, during the approach flight, SIS furnished estimate of the strength, aircraft types, and altitude of the enemy formation.

While during the first years of the war, the relation between the SIS and A-2 grew ever closer, it was relatively late before the A-3's interest in the SIS was awakened. Not until the decline of the Luftwaffe, did A-3 grasp at SIS information, and pose questions and problems. He was especially interested in the tactics of Allied combat units (fighters, and medium and heavy bombers), and the modus operandi of Allied radar, jamming, equipment, etc. In order to make effective use of his limited forces, A-3 conferred with the SIS when he planned special missions. Likewise, the Fighter Warning Service was of concern to the A-3, or the chief of staff. Questions of equipment, strength, and deployment of the Allied air forces, were of special interest to A-2, while new intelligence of enemy tactics received greater attention on the part of A-3.

F. Miscellaneous.

1. Allied Landing in Sicily.

This landing was thoroughly planned by the Allies, after the last

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German resistance in Africa had been beaten down. First, the attacks by heavy bombers reduced most of the Sicilian cities to rubble, and spread an indescribable panic throughout the already war-weary population. Acting simultaneously, Allied naval and assault forces captured the outlying islands around Sicily, under prodigious air cover, and the Italian garrisons of these islands surrendered, almost without resistance, with the sole exception of Lampedusa. Shortly before the landing, the Allied fighters on Malta were increased fourfold, and the Tactical Air Force moved forward to the airfields of northern Tunisia, which the Germans had just evacuated. At the same time, concentration of radars was observed, which presumably were intended to accompany the enemy forces making the landing. By conscientious coverage SIS was, in these weeks between the fall of Tunis and the appearance of the enemy landing fleet, able to categorize all the radio traffic characteristics of a landing. Instead of describing the individual landings that took place in the Mediterranean during the year in question, it is thought better to devote the following section to a presentation of the general symptoms of such a landing, by which signal intelligence was able to recognize and predict the operation.

2. Radio Procedure Characterizing Landings in the Mediterranean.

In the course of the struggle in the Mediterranean theater, the enemy worked out a regular plan for the preparation and execution of landing operations, the principal features of which recurred in each landing, albeit with new refinements and variations. This was especially reflected in the transmissions of radio traffic. Hints from other intelligence sources alerted the German SIS to the necessity of especially close monitoring.

These hints, coming mostly from the Espionage Service (Abwehr), included:

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- a) Reports of special ground force and airborne units being brought to a state of readiness;
 - b) Reports of concentrations and preparations of landing craft, troop transports, and warships in enemy harbors.

These espionage reports were sometimes confirmed by photo reconnaissance and prisoner of war interrogations.

In the meantime the Army SIS learned of the withdrawal of certain large enemy units from the Front, and ascertained that they were being trained for landing operations. This was true of whole divisions. The air support parties of such units then retired to the rear, where they were heard in practise traffic, their former combat sectors having been taken over by adjacent units, and, to a limited degree, replacement units.

From the air-to-ground traffic the following could be determined:

- a) Fighter units were withdrawn from their regular sector, and moved to new bases;
- b) Movement of staffs, and formation of advanced echelons (noted from the appearance of advanced and rear echelon call-signs);
- c) Units formerly based to the rear would take over bases nearer the front, vacated by units which had moved still farther forward. There would be an increase in the missions flown;
- d) Preparatory bombing missions by heavy bombers against transportation centers and installations to the rear of the proposed landing area (beginning about three weeks before the landing);

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- e) Increased operations of medium bombers over the landing area (beginning about one week before the landing);
 - f) Increased reconnaissance activity over the proposed beachhead just before the landing;
 - g) Incessant fighter bomber attacks in the landing area up until the moment of landing.

The Allied radar networks revealed the following:

- a) Withdrawal of radar installations from the Front, and reorganization of the Signal Aircraft Warning Service;
- b) New accumulation of radar apparatus in the staging area;
- c) Concentration of operational radar at designated invasion bases, and sweeping in the direction of intended attack (such as the massing of radars in northwest Corsica before the landing in southern France);
- d) Reading of certain navigational aids used only in landing operations.

The German radar intercept service could D/F the movements of the enemy, and identify the different radar transmissions intercepted as GCI or gun-laying radar, and, in the case of naval radar, to distinguished between different types of vessels. The start and course of the landing fleet, and its concentration opposite the beachheads, could be followed.

Just before the landing, fighter control stations aboard ship would maintain contact with the fighter cover, and with aircraft patrolling the beachhead. Later, these control stations were removed to hastily-constructed fighter strips. At the same time, Army and Air Force CP's on the ships, and their advance echelons on the beachhead, would be recognized in the W/T air support traffic.

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After landing facilities were set up on the beachhead, advanced headquarters began to appear in the radio traffic. After the first aviation units had established themselves on the newly-constructed landing strips, their fighter controls were also transferred from the ships, and took over the R/T traffic on the air strips.

It is to be perceived, that SIS was in a position to give the following advance information, after gleaning the necessary experience from the first landings:

- a) It could be predicted, approximately a month in advance, that there would be a landing;
- b) In a somewhat lesser time the general area of the landing could be predicted;
- c) The strength of the units to be employed in the landing could be estimated;
- d) Naval units available could be determined;
- e) One week before the landing the exact spot for the proposed beachhead could be stated.

3. The Bombing of Frascati, 8 September 1943.

The information from reliable sources, which the SIS battalion in Italy gathered, thanks to the linguistic ability and the connections of its members, made it possible to take certain security and protective measures against the anticipated treachery of Badoglio. Even so, SIS intelligence and reports were still supplied to the Italian Supreme Command up to a few days before the capitulation of Italy. The Supreme Command displayed, especially

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in Frascati, an ever-growing interest in the SIS battalion, and this was expressed by numerous visits to its installations by staff officers of the Italian Army, Navy and Air Force. Even though the German policy was not to permit dubious allies to peer into affairs any more than necessary, it was nevertheless unavoidable that the Italians should realize the supreme importance of SIS, which they themselves knew how to use only imperfectly. This wisdom on the part of the Germans became apparent, when, on the 8th of September more than 160 B-24's attacked Frascati. The evaluation company, and barracks of the SIS battalion, even though they were off to one side of the town, were nevertheless attacked with precision, and reduced to rubble. The Italians must have given information which made it a special target. A direct hit on the dugout of the former SIS Company, Africa, resulted in 36 fatalities. Apart from that, the military damage was insignificant. Whereas, almost the whole city and half the civilian population fell victims to the bombardment, the headquarters of the C-in-C, South, was in operation again, in auxiliary quarters, within eight hours, and was able to direct the encirclement of the Italian divisions concentrated in the Rome area. The SIS battalion joined in this engagement, though not required to do any fighting in its particular sector. Unfortunately, the most capable evaluation officer was killed in an ambush in the city itself, and the only radar expert among the battalion's officers was seriously wounded and out of action for some time.

The requisitionings and commandeering that followed this episode, made it possible for the SIS companies to increase their complement of receivers, fuel, and above all, vehicles, to such an extent that they finally achieved the state of mobile, motorized units. This deserves special mention

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because the crippling lack of vehicles had, up to that time, made it impossible for the companies to keep in constant touch with their out-stations.

4. The Sinking of the Roma, 8 September 1943.

When, after the capitulation, the Italian squadron steamed out of Leghorn, and sailed down to Tyrrhenian Sea, a British reconnaissance aircraft sighted it, and reported this momentous news to its ground station immediately. The encoded message was intercepted and read by the 10th Co., LNR 3, its importance realized immediately, and the South France Air Command advised. Fortunately, the South France airfields had by chance some He 111's in operational readiness. The British reconnaissance aircraft continued transmitting reports in conscientious fashion, and the Germans took great pains not to disturb its good work. In this way the German Command was not only kept informed of the movements of the escaping fleet, but also learned of the success of its own subsequent aerial attack on the Roma. This was the most successful day the SIS company ever had, and its able operators were awarded a sheaf of decorations.

5. 9th Company, LNR 32, in Soriano. Last Quarter of 1943.

While the evaluation company of the SIS battalion in Italy withdrew to the Padua area after the bombing of Frascati, the work in its companies and out-stations continued. Since R/T call-signs were beginning then to appear in air support traffic, close liaison developed between the evaluators working on these two types of traffic, which especially improved tactical evaluation, and, in turn, the service rendered to combat units by the out-stations. The evaluation of air support traffic, coupled with messages giving advance notice of missions, spared German fighters the necessity of making patrol flights, and enabled them to take-off against attacking

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fighters and fighter bombers even before warning was to be obtained from R/T traffic. The Luftwaffe at this time was already so inferior to the Allies in numbers, that it could afford sorties only when there was definite promise of success. This was possible only with the help of the SIS.

In order to render this aid as reliable and comprehensive as possible, the 9th Co., INR 32, with evaluators and intercept personnel, was placed at the disposal of the 2nd Air Command in Viterbo as an independent SIS unit. This Command was the forward echelon of Fliegerkorps II, which had moved to Bergamo. The battalion reinforced the company with air support and radar specialists, as well as experienced intercept operators, and the VHF stations in the forward area were subordinated to it. Exchange of reports, and operational advice to Luftwaffe and Army units, was accomplished through the SIS liaison officer at 2nd Air Command Headquarters. Finally, even the Fighter Warning Service, previously located at Perugia with F 122 (Luftwaffe long-range reconnaissance unit), was transferred to Soriano, so that the 9th Company would also have available the results of R/T interception by the two outstations at Monte Cavo and Atri. The R/T out-stations on Monte Cavo, manned with the excellent personnel formerly in the Noto station, covered all R/T traffic in the Cassino sector, where the mass of the German fighters was employed. Moreover, it was so favorably situated with relation to the Anzio beachhead, that some evaluation problems were cleared by visual observation.

Besides an excellent evaluation section, the company had five receivers on air support traffic, 20 receivers for monitoring Allied radar reporting networks, and at least five VHF receivers, together with a VHF D/F network. This probably unique collection of intercept and evaluation forces at the CP

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of an Air Command made for a thorough, rapid, and comprehensive briefing by the SIS liaison officer, who soon became the closest adviser of the A-3. He passed SIS information directly to the ground force units, while the Army SIS liaison officer on hand informed only his parent SIS organization.

6. The Battle for the Aegean Islands, Fall of 1943.

After Italy's withdrawal from the war, any degree of security for the German position in the Balkans depended on control of the numerous islands around Greece, which, in some cases, the Italian garrisons had immediately surrendered to the British. The German counterattacks were astutely planned, and courageously executed with very limited, but carefully selected forces.

The SIS was asked to support these intended operations. Therefore, a number of tactical evaluators was transferred from Athens to out-stations, and communication arranged between these out-stations and Fliegerkorps X. Before the attack began, British radar reporting networks were monitored, and the decoded messages passed on to the Fliegerkorps. Since the enemy radar stations on Castelrosso, Simi, Nisiros, and other islands, currently reported plots on both German and Allied aircraft, SIS could not only give warning of Allied air attack, but could provide a check on the conduct of Luftwaffe air operations. Some assistance was also obtained from air raid warnings broadcast on Turkish police networks.

The signal documents were among the most comprehensive that ever fell into German hands. They confirmed the thorough and reliable work of the German SIS to a marked degree.

7. Preparations for an Adriatic Landing, October 1944.

During the second half of 1944, the Luftwaffe SIS in Italy covered

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a variety of traffic, which bore all the signs of preparation for an Allied landing operation, but which differed from previous enterprises of like nature in several ways.

As early as July of this year, it was noticed that the American Fifth Army was shifting the weight of its forces to its right flank. Here it was joined to the British Eighth Army, which was pressing its attack in the direction of Lake Comacchio. These adjustments served to shorten the front of the Eighth Army. A further development was the transfer of the Canadian XIII Corps from the Eighth to the Fifth Army in September.

This fact, established by the Army SIS, aroused the suspicion that the British Eighth Army was to be withdrawn from the front, in preparation for another operation of great magnitude.

British divisions were continually being withdrawn from the Front and assembled in the Fano-Rimini area. Their radio stations sent practise traffic from these positions, as the Army SIS found out by its observations.

For a short period, the Desert Air Force had been performing tactical reconnaissance for the Fifth Army, since two of the latter's reconnaissance squadrons (225th Recce.Sq., and 111th Recce.Sq., both of 12th Air Force) had been temporarily withdrawn. After the situation had been righted, the tactical reconnaissance area of DAF was retracted eastward to include only the right flank of the Canadian XIII Corps.

The concentration of the tactical reconnaissance activity was around Venice. This gave rise to the expectation of a leapfrog landing

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in the Venice area. However, further developments belied this assumption. The increasing reduction of the British Eighth Army pointed toward a major undertaking of some sort. Photo reconnaissance of the Ancona area revealed the gathering of a landing fleet, the strength of which, however, was not proportionate to the requirements of a leapfrog landing.

While DAF tactical reconnaissance had up to this point concentrated mainly on the area south of the Padua-Venice line, it was now extended to the Udine-Istria area. Moreover, DAF (239 Fighter Wing) sent fighter bombers over Pola, and the 15th Air Force and 205 Group, RAF, launched their heavy bomber attacks in such a manner as to indicate intentions of a landing in this area. At the same time, the Allied radar service had undergone a reorganization, particularly on the eastern sector of the Front, in the course of which more than twenty installations were concentrated in the Ancona area. As a final touch to preparations, the point-to-point networks of the DAF air support parties withdrew from the Front, and likewise assembled in the Ancona area. The following was learned from the radio traffic:

~~*~~ As was usual after a day of battle, a relaxing of radio discipline was quite noticeable. Airfield radio stations exchanged greetings and salutations, and sang the praise of their local wine and women. All the airfield radio stations of DAF indicated a movement when closing down (for example: "CL moving"). On the following day no traffic was heard on any frequency. During the morning of the next day, air support traffic was intercepted in volume corresponding to that on previous days. It was identical with previous traffic in respect to type of transmission, and to form and content of messages and message preambles. Through the efforts

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of the R/T operators, however, it was learned that these were not the same previous air support networks, but rather completely new ones. New transmitters and communication personnel had appeared at all the airfield radio stations. Differences in type of transmission and code speed allowed this conclusion to be drawn.

* Creating this reserve of radio operators and sets gave DAF units great freedom of action. It meant that they could continue with their current operations up until D-day, and then, when the signal was given, jump right into their new commitment, since experienced communication personnel would be waiting to serve them. Monitoring of Allied point-to-point networks and the interception of Allied radar also furnished illuminating intelligence.

* Preparations for this landing differed in several essential points from those undertaken for previous landings:

- a) The flexibility in operational tactics developed by both the Army and the Air Forces allowed their units to maintain current operations, while at the same time preparing themselves for the new undertaking.
- b) Changes in the enemy's intentions, and a certain anxiety on his part, could be deduced from the shifting of the weight of his reconnaissance.
- c) The length of time given to preparations bore no relation to the importance of the operation being planned.
- d) In connection with the above, the long drawn-out nature of the preparations was especially striking; at times one would almost think that they had stopped entirely.

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All these factors led to the conclusion that the question as to whether a landing would take place, depended more on political than military considerations. The undertaking never was realized in any form. Toward the end of the year, the radar equipment which had been concentrated in the Ansona area was redeployed on the eastern and middle sectors of the Front. Likewise, units of the Eighth Army which had been withdrawn were returned to the line. The Canadian XIII Corps was again placed under Eighth Army, and the tactical reconnaissance sphere of DAF was broadened to include the left flank of the Canadian corps. The American Fifth Army transferred its spearheads back to the middle sector, and pressed its attack in the same direction as previously. Through this redistribution of units, the Eighth Army again became fully operational.

VI. From the Activation of the SIS Regiment, South, to the German Collapse
(October 1944 to May 1945).

A. General.

The belated activation of the regiment did not increase the efficiency of signal intelligence in the South, owing to the collapse of the fronts outside the borders of Germany, and to the breakdown of communications within Germany itself. Nevertheless, the solid organization finally achieved, coupled with the reliable SIS leadership in the South, made possible new successes, in spite of the continuous withdrawals caused by the advances of the enemy. When, in the beginning of 1945, the Russians made their first penetration into Styria, and Graz appeared to be threatened, the regimental staff and evaluation company, as well as one of the intercept companies, moved to Attersee. Following the fall of Vienna, they were joined by Meldekopf 4 and

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the intercept companies previously located in the Vienna area. Likewise, out-stations in the South, West and East had to be withdrawn because of enemy advances. The 2nd Battalion, with two intercept companies, moved to Steinach-Fuergg.

When the Americans also advanced into Salzkammergut, the regimental staff, and the two companies with it, moved to the area of the 2nd Battalion in Steinach, in order to avoid premature capture. After the instrument of unconditional surrender had been signed, all the units, at the command of Luftflotte 6, moved off to the Luftwaffe internment camp in the Aschbach area, where the other elements of the 2nd Battalion were also gradually assembling. Those women auxiliaries who had still not been discharged were either billeted in private homes, or delivered to the womens' discharge camp.

The 1st Battalion fell into the hands of the British at Canazei. Its women auxiliaries were interned in a camp near Bologna, and the male personnel was taken to Naples under a misconception on the part of some RAF officers, who thought they had unearthed a spy ring.

B. Organization (See Figure No. 13).

The creation of the regiment resulted in the combining of the two evaluation companies of the battalions into a single regimental evaluation company, which was placed directly under regimental headquarters, to which the Vienna Meldekopf was also subordinated. Each battalion comprised three radio intercept companies and one radar intercept company. Their duties were divided according to specialty (HF, VHF, radar) and geographical circumstances. A rather large evaluation platoon was attached to the 1st Bat-

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talion for purposes of tactical evaluation. However, it remained assigned to regimental headquarters. In this way all evaluation and liaison work was centrally directed (See Figure No. 14).

Receivers for the various intercept tasks were allocated as follows:

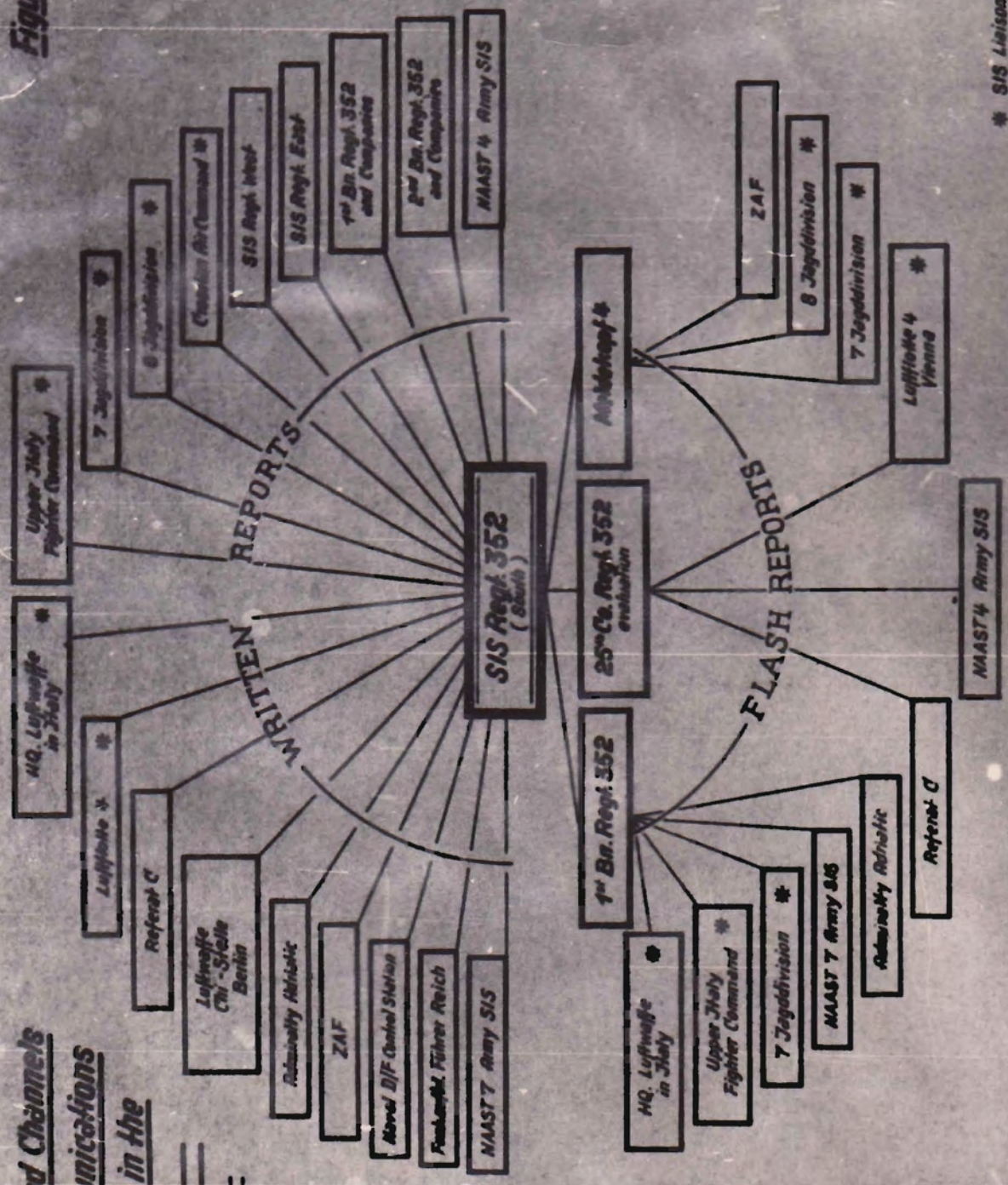
Allied air support units (point-to-point)	65 receivers
Allied radar networks	30 receivers
Command and liaison networks; eastern Mediterranean and Balkan traffic; transport and supply traffic	50 receivers
Mediterranean Allied Strategic Air Force (15th USAAF and 205 Group, RAF)	25 receivers
Total:	<hr/> 170 receivers

To this were added approximately 35 VHF receivers, bringing to 205 the total number of intercept receivers operated by Ln.Regt. 352. The direction-finding network comprised: 23 HF D/F's, and approximately 100 various radar intercept receivers, spread over 15 out-stations.

Since the regiment had been designed to meet the requirements of mobile warfare, it remained operational to the very end, although restricted to an ever narrowing area. When, for all practical purposes, liaison with headquarters, owing to the collapse of the Command, was no longer possible, the regimental commander, with the help of his VHF out-stations, began to prepare a fighter warning service for the civilian population. Even the Gauleiter of Linz requested the regiment to assign an SIS liaison officer to his office. The surrender in the South brought

Figure No 14

Liaison and Channels
of the SIS in the
South
Fall of 1944--



* SIS Liaison Officer

an end to SIS development along this line.

C. Strength.

Regimental staff	30 men
Battalion staffs	40 men
Maintenance platoon	80 men
25th Co., LNR 352	200 men
26th Co., LNR 352	350 men
6 radio intercept companies	1200 men
2 radar intercept companies	<u>700 men</u>
Total:	2600 men

The regiment had a total of only 350 women auxiliaries, since, owing to the more rugged conditions in the South, they could not be employed as extensively as they were in the West. After the activation of the regiment, approximately 300 soldiers were transferred to SIS units in the West, and to combat elements.

D. Signal Communication of SIS Regiment, South. (See Figure No. 15).

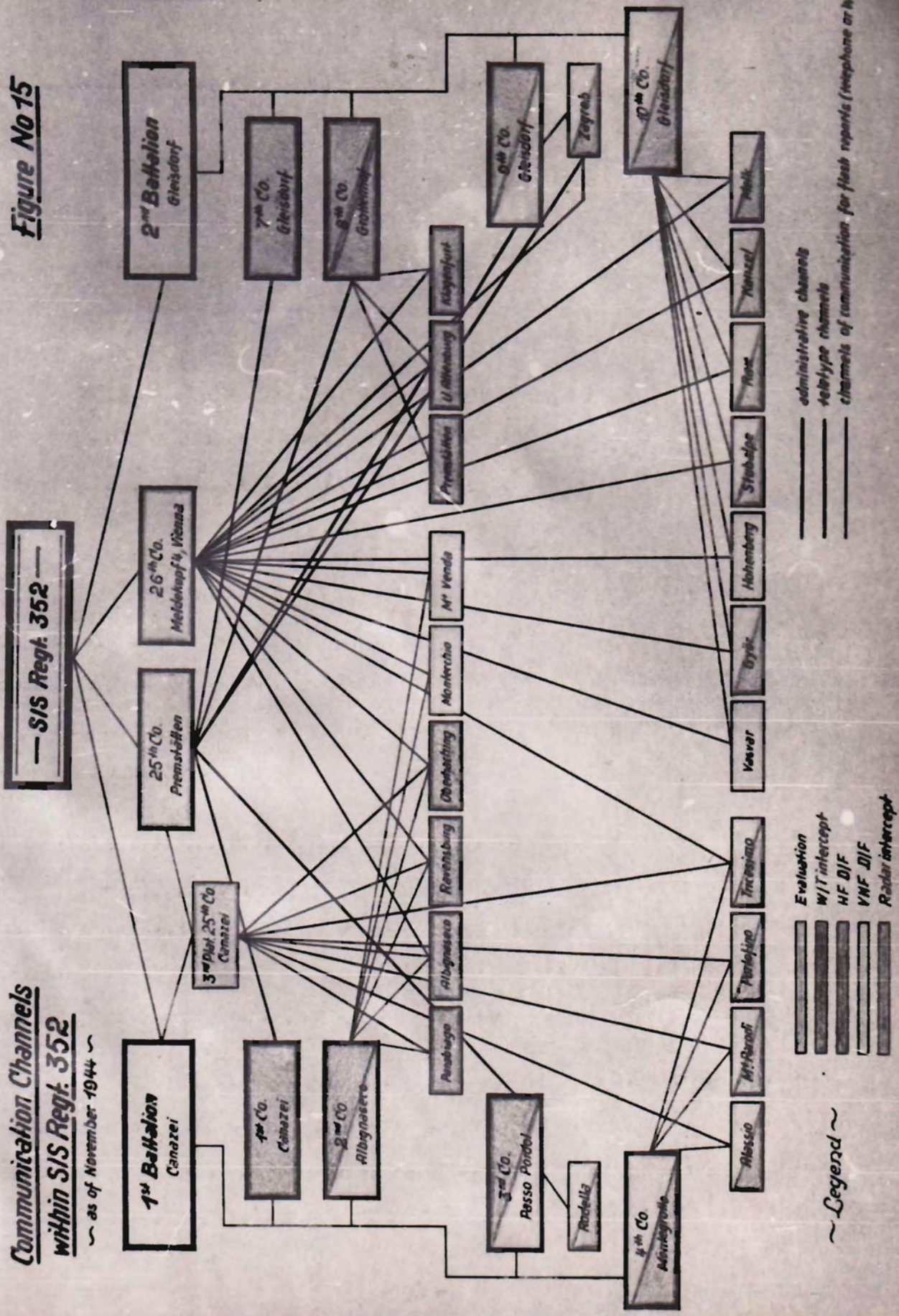
1. Telephone.

There were direct lines from the regiment to all headquarters, and to the larger SIS units; also, to all Luftwaffe exchanges located in the vicinity of the regiment (See Figure No. 16).

In the case of operational calls, the Luftwaffe exchanges would hold lines open for SIS, upon the use of the codeword "Dante". The tactical evaluation section, and commanding officers, were authorized to make operational priority ("Fuehrungsblitz") and urgent calls; in general, this

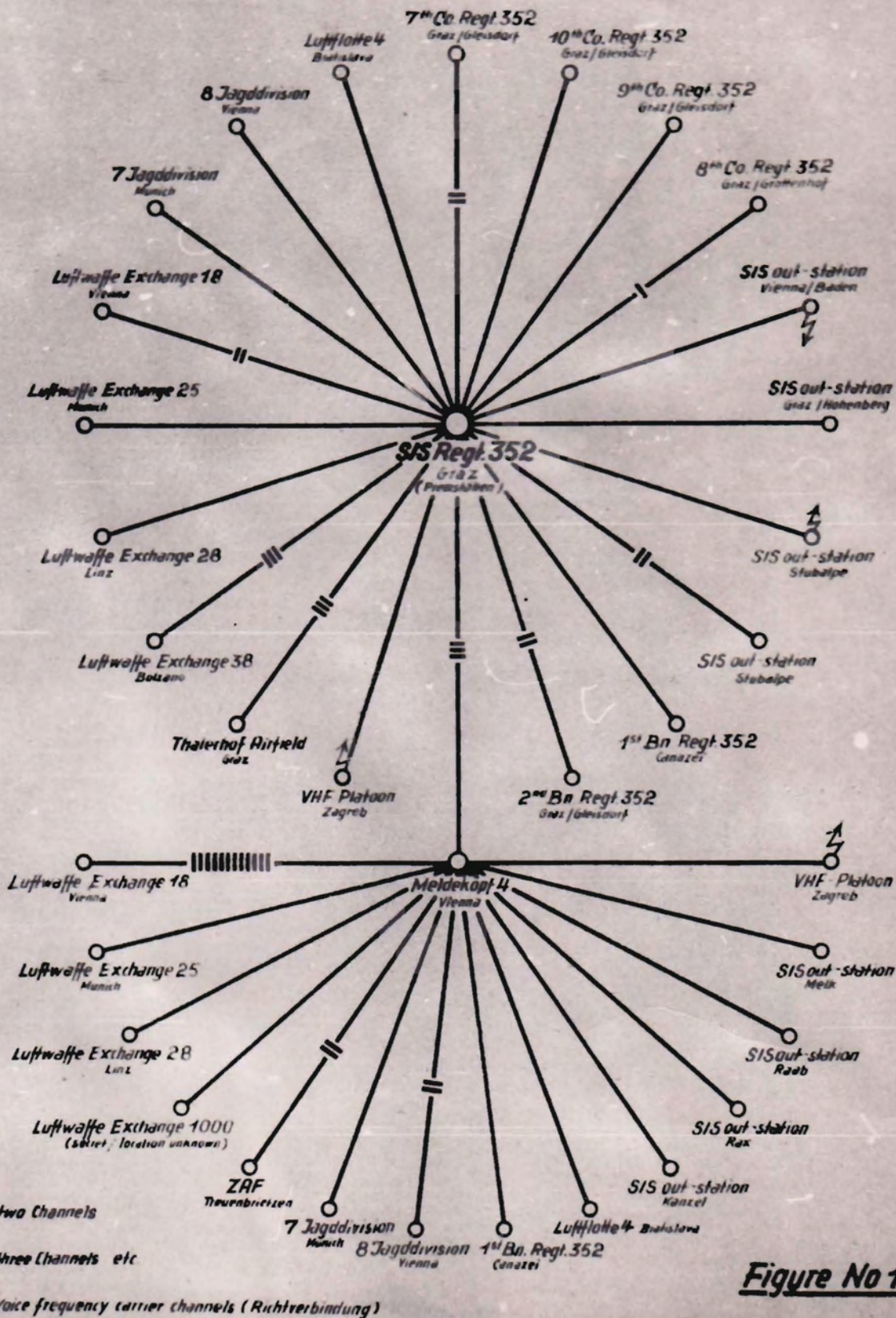
**Communication Channels
 within SIS Regt. 352**
 ~ as of November 1944 ~

Figure No 15



Telephone Lines of SIS Regt. South

Beginning of 1945



two Channels
 three Channels etc.
 Voice frequency carrier channels (Richtverbindung)

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prerogative was limited to section chiefs of the General Staff. Security in conversations was maintained by the use of a telephone code. SIS telephone exchanges also had cover-names ("Pirate", "Clairvoyant", "Heather", etc.).

2. Teletype (See Figure No. 17).

The SIS had its own teletype system which could be used by no other Luftwaffe unit. Combination teletype and cipher machines ("G-Schreiber") were generally only to be found at higher headquarters, but in the case of SIS, they were distributed down to companies and platoons. The machines were continually being improved with respect to the security of the enciphering component, the result being that new models came out almost monthly. In addition to the "G-Schreiber", the Siemens and Lorenz teletype-writers were also used.

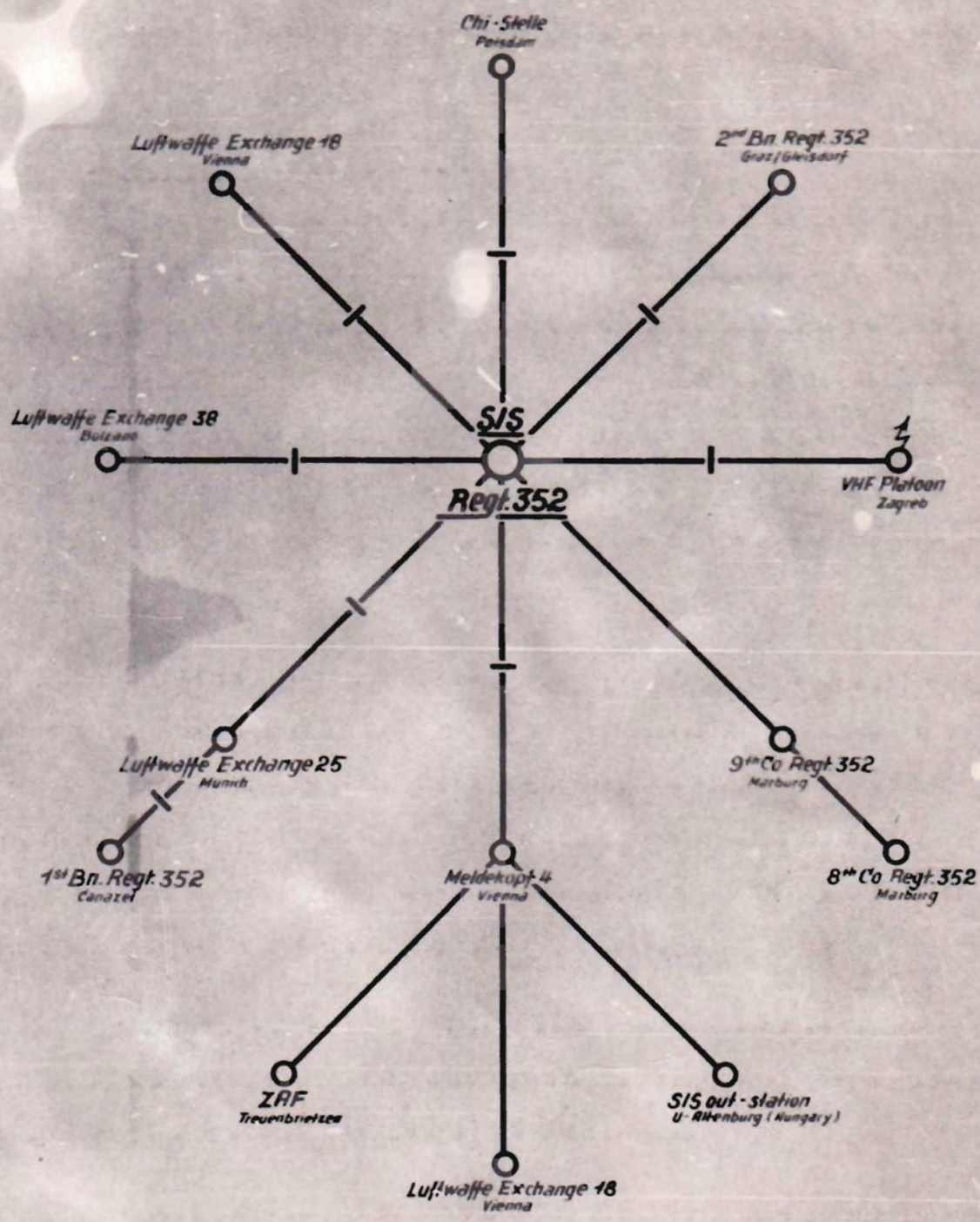
Top secret and secret messages had to be sent by teletype-cipher machine only. Encipherment with the "Enigma" machine, and transmission in five-letter groups on a standard teletype-writer, was only admissible in exceptional cases. The "G-Schreiber" impulses were very sensitive; even a small variation in amperage would cause letters to be printed at the other end, which were quite different from those intended.

Cipher systems for the teletype-cipher machines were issued monthly, and the settings changed every 24 hours. Only an officer or inspector technician was allowed to operate the machine.

Teletype messages sent on the "G-Schreiber" were popular, because in this way topics which could not be mentioned on the telephone, for reasons

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Teletype Network of SIS Regt. South
~ Beginning of 1945 ~



- Radio Teletype Carrier Channel (Richtverbindung)
 - Teletype - Cipher Machine („G“Schreiber)

Figure No 17

of security, could be written. If the teletype lines became unserviceable, a standard teletype-writer was then connected to a simplex telephone circuit, and the line balanced, so as not to cause distortion of telephone conversations. In these cases the telephone exchanges acted as intermediary.

Cipher systems and machines were kept strictly secret, the teletype room was off limits to all officers and men not employed there. Transportation of a teletype-cipher machine could only be handled by officer courier. The larger SIS units also had teletype exchanges; in the Luftwaffe, these were ordinarily authorized above Fliegerkorps level only (e.g., Luftflotte, Luftgau). The SIS teletype exchanges were naturally connected with all other Luftwaffe teletype exchanges, so that all Luftwaffe units having teletype facilities could be reached by SIS.

3. Radio. (See Figures No. 18, 19 and 20).

In the Southeast radio remained the most important means of signal communication; for each wire line there was a standby radio link. Radio communication consisted of three types of traffic: order, D/F control, and operational or administrative messages. The "Enigma" machine, with a special setting, was generally used to encipher order ("Heinrich" setting, "H" standing for "H-Dienst"). Enigma machines in the larger code rooms had an attachment which permitted greater speed in enciphering and deciphering.

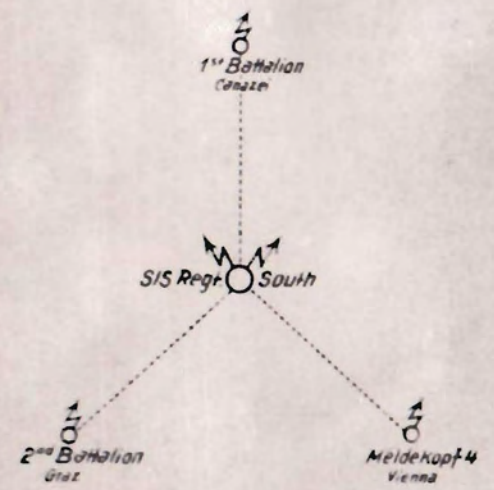
To increase the cryptographic security of the "Enigma" machine, different settings were used in juxtaposition, for example, High Command settings, Luftgau settings, Wehrmacht settings, "Heinrich" settings, etc.

SIS Radio Networks in the South

~ Beginning of 1945 ~

Regimental Command Network

— SIS Regt. South —



SIS Broadcast

(Radio Network Meldekopf 4)



Chi-Stelle Command Network

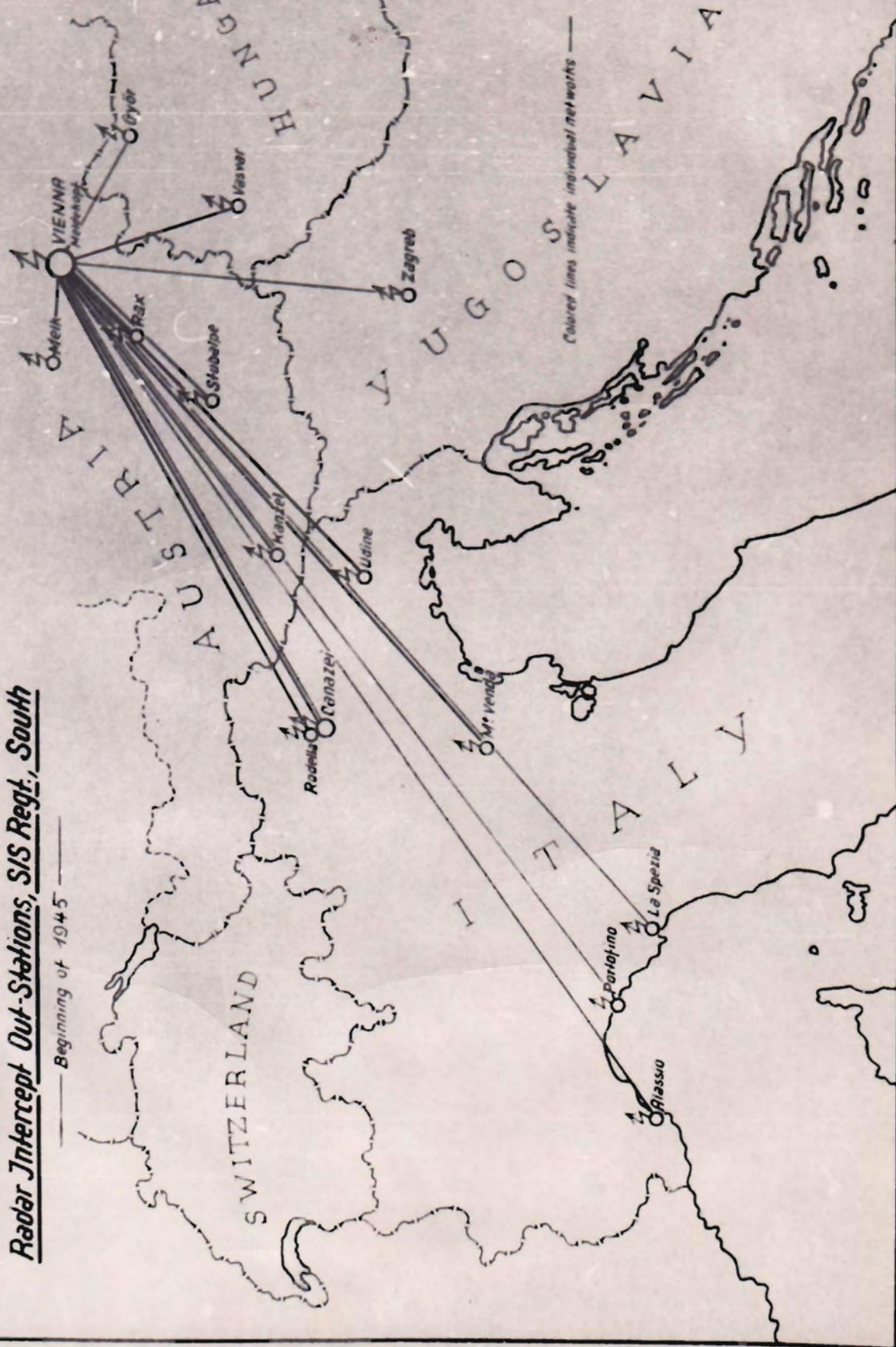


Figure No 18

Radio Communication Network of VHF and Radar Intercept Out-Stations, SIS Regt., South

— Beginning of 1945 —

Figure No 20



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The external form of these systems appeared the same; only the arrangement of the cipher letters within the text was different. "D" rotors (Umkehrwalze D) were used for especially important messages.

A brevity code was used in D/F control traffic, and for the reporting of bearings and fixes by the D/F stations. There were also code groups for the more frequently used names of aircraft types and Allied units. When used, this code was deciphered with a cipher table which was, in most cases, changed every 14 days. These decipherment tables were compiled by cryptographic technicians of the regiment, and their use approved by the Chi-Stelle. The overall time required to encipher, transmit, and decipher these messages was one to three minutes. The application of cipher tables to unencoded text was forbidden.

In requesting bearings, or inquiring into the serviceability of a direction-finder, the radio operators used 3-letter groups, similar to Q-signals. These were changed from time to time.

Since the encipherment of numbers by "Enigma" was a very tedious process, codewords were substituted for the numerical designations of Allied units, when drafting a message containing the daily report. This procedure would also serve to partially veil the results of German signal intelligence, in the event that "Enigma" messages were being deciphered by the enemy. The "Enigma" settings were issued monthly, and changed daily. The position of the rotors was changed with each message to give further security. The jack connections remained constant for 24 hours. Messages of over 36 groups had to be divided in parts and enciphered with different indicators. The position of the rotors could be determined from the indicator.

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4. "Saegefisch" Installations (Radio Teletype).

These consisted of a powerful HF transmitter, a teletype-cipher machine ("G-Schreiber"), and a special appliance to convey impulses from the teletype-cipher machine to the transmitter. Rhombic antennas were used at both ends of these links. This type of communication was most effective at distances over 600 kilometers. It was only installed at higher headquarters, but SIS was given the privilege of using it.

5. Voice Frequency Communication. (Richtverbindung)

This signal means proved especially valuable during the second half of the war, when land-line communication was being continually disrupted, either by guerilla activity in the occupied countries, or by the Allied bombing of German cities. Especially in the Balkans was extensive use made of this type of communication, and credit for the efficient networks created must be given to General Gosewisch, the Chief Signal officer of Luftflotte Southeast. This carrier system had many advantages. It was not very susceptible to interference, the apparatus itself not being very sensitive, and could be both installed and dismantled quickly. The carriers had both telephone and teletype channels. For the latter, only teletype-cipher machines of the latest type were permitted to be used. Veiled language had to be adopted in telephone conversations with tactical import, owing to the risk of interception.

It was unfortunate that the land-line system within Germany, during the years when such an undertaking would have been possible, was not augmented by a copious voice frequency network. This deficiency was keenly felt when the increasing fury of Allied air attacks destroyed both exchanges

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and relay stations in the cities. Voice frequency stations had to be installed on high ground and in line of sight of each other.

6. R/T Communication.

Intercept detachments, when located within 45 miles of the regimental headquarters, and when sited on high ground so that the line of sight factor was maintained, were equipped with portable radio sets (pack set "D"). Since the regiment, during the last weeks of the war, was being constricted to an ever narrower area, these two-way voice radios enabled it to maintain communication with its out-stations until the final surrender.

7. Epilogue.

Six years of intensive labor had permitted the creation of a land-line system quite unique, both in its compactness and its girth. Not only the Signal Intelligence Service, but also the fighter defense, the Air Raid Warning Service, the Navy, the Army, industry, the Party, and the Post Service had its own communication system. Had the outcome of the war been favourable for Germany, these facilities could have been made available to the public, and every workman would have been guaranteed a telephone. In spite of the enormous damage sustained by this land-line network, it would be possible, in a short time, and at relatively slight expense, to rebuild on its foundations an extensive, smoothly functioning system of communication.

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